NOTE THE SOAP INDUSTRY SECTION

The American Perfumer

and Essential Oil Review

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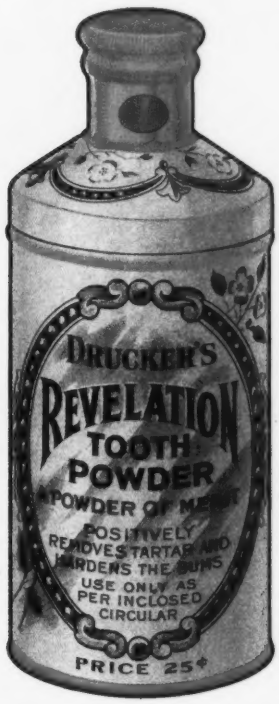

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The American Perfumer and Essential Oil Review

The Independent International Journal devoted to perfumery, soaps, flavoring extracts, etc. No producer, dealer or manufacturer has any financial interest in it, or any voice in its control or policy.

ONE DOLLAR A YEAR.
TEN CENTS A COPY.

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FOR PEACE AND PROSPERITY.

Under the dictum of the American Nation there can be no peace without a vindication of Freedom and Democracy. At this Christmas tide and with the New Year coming in we can only hope that the end may be hastened. Meanwhile, we extend to our readers, advertisers and other friends our best wishes for the holiday season. Everything seems to indicate that in business, as well as in war, our Nation and all of us in it will prosper in 1918. It is for all of us to help push along the rising tide of success in everything that is connected with America. Let there be no slackers.

THE SITUATION AT WASHINGTON.

Fear of a campaign against perfumery, toilet goods, flavoring extracts, soap and similar commodities seems to have been effectually dissipated by official announcements at Washington. We are advised that the so-called secret list of unessentials really is the reverse. The railroad list, our informant says, is a priority list and not a list of unessentials. For that reason, we are told, the so-called secret list never has been made public. An official explanation, which would have dissolved the mystery, might have saved a lot of unnecessary worry.

We are advised on very good authority that the Federal Administration has no desire to curtail any industries. President Wilson still adheres to his "Let business go on as usual," so far as it can be done with the changes made necessary by enlistments and drafts into the Nation's service. As we understand the situation the worst that can be expected is a delay in the movement of goods by rail and a stoppage of coal if the situation in that line does not improve. It might easily be realized, it was pointed out to us by a man close to the Administration, that to shut off industries in our lines would simply weaken the Liberty bond buying power of a consequential part of the country, not going further into the subject, for there are other reasons almost as vital.

Our Washington correspondent deals interestingly and in an informative way with the situation at Washington. His view of the importation outlook agrees thoroughly with our own information on the subjects. He says:

WASHINGTON, Dec. 15.—If there is any policy on the part of this government intentionally to restrict the importation of luxuries, it does not appear on the surface of affairs at either the War Trade Board, which has jurisdiction over the import trade to a considerable extent under the recent proclamation of President Wilson, or the United

States Shipping Board, which controls the shipping tonnage of the United States, and then some.

However, at the same time it may be possible that imports of luxuries may be curtailed to some extent as a result of the policy of this government to utilize the shipping tonnage available to the best possible advantage. It is essential to the safety of the United States and its allies in the world war that ample supplies of absolutely necessary raw materials should be brought into this country in order that the nation may be equipped for war.

Among these supplies may be mentioned nitrate, tin, hides, wool, manganese, rubber, etc. There are big shortages of these materials in the United States, it is said, and all of them are vital in supplying the anti-Teutonic millions with ammunition, food, shoes, clothing, articles of metal, motor cars and other war equipment.

In the circumstances, the Shipping Board has been designating the trade in which the ships it controls shall engage. It has assigned ships to certain trades and certain routes and to carry certain cargoes. To some extent it is thought possible this practice might interfere with the importation of luxuries. That such interference has been serious is not believed; nor is it expected to be for some time, if it ever should become so.

It was pointed out to your correspondent by the Assistant to the Chairman of the Shipping Board that many of the vessels returning nowadays from Europe, especially munition ships, do not carry much cargo. There is room in them, it is believed for certain luxuries, though there might not be a year hence for all luxuries, when the American campaign against Germany gets in full blast and sick and wounded are coming home in large numbers.

French automobiles might have no chance, but as for perfumery and cosmetics, persons connected with the trade say that there always will be cargo space enough for such articles, even if they be classed as luxuries. As one man expressed it, "There will be room enough in the purser's pocket" for such articles as the perfumery trade may wish to import. That is a graphic way of expressing the small space necessary for such articles, compared to the shipping available for traffic crossing the Atlantic.

One list of articles for the importation of which special license is required has already been promulgated by the Executive and it is understood that the War Trade Board has been engaged in preparing another and revised and enlarged list of such articles to be issued at an early date.

So far as could be learned at the War Trade Board, there is no intention formulated to say officially what are luxuries and should not be imported into the United States. It is stated by officials of the Board that each commodity will stand on its own merits when the question of permitting or prohibiting or licensing the importation of it is considered. Articles will not be dealt with by classes, in that connection.

The Shipping Board controls practically every American ocean vessel of size and consequence. It is operating many and chartering others to the owners thereof. It also exercises control over considerable neutral shipping to the extent of passing upon charters for the same that are held in this country.

France and some other countries, it is understood, have felt called upon to restrict specifically the importation of luxuries as such. The reason for this is said to be that the people of those countries are poor and it is deemed necessary to help them in this way to save their money for buying government bonds or other war purposes. However no such condition exists in the United States. Economies are necessary here, but not necessary to nearly the same extent as they are abroad. Whether they will be eventually before the war is over remains to be seen.

The only instance where the importation of luxuries by government action has been curtailed that your correspondent was able to learn of concerned certain Chinese and Japanese works of art. It is said that the transportation of these articles has been interfered with by reason of the lack of shipping facilities on the Pacific Ocean.

The suggested curtailment of the importation of luxuries is in line with the tendency in the government and among the people of this country, it is believed, toward the curtailment of unessentials in various lines, including unessential industries, transportation, labor and expenditures, so as to concentrate energy and funds upon the winning of the war.

Officials of the Council of National Defense believe that there has already been a voluntary curtailment of the purchase of certain so-called articles of luxury. It is believed that there has been reduction in the production of such articles, owing to the scarcity of coal, labor and transportation. It is generally known that there has been curtailment in the transportation of such articles, as the railroads have almost as much as they can do to carry the food, fuel, munitions and other war materials, equipment and supplies of all kinds and government stuff.

There is no official list of essential or unessential industries, as there was issued in England early in the war, but there is an unofficial railroad list of things deemed unessential by the railroad managers for the people of this country to have transported. While the railroad unessential list has not been made public, it would not be surprising if it contains certain products of the perfumery, cosmetic, toilet preparation, flavoring extract and soap industries, although their demands upon the transportation system of the country are not relatively large.

While official Washington has not sanctioned the denial of transportation to articles of luxury as such, it has instituted a system of priorities which has much the same effect. This system gives the right of way to food and fuel, munitions and war materials and government supplies of many kinds on the railroads of the country, and there is so much of these classes of freight that there is comparatively little chance for so-called non-essentials. Freight embargoes imposed by the railroads have restricted the transportation of many commodities and classes of freight, especially in the east.

The question of essentials and non-essentials was discussed by various speakers at the recent meeting of war service committees representing numerous industries held under the auspices of the Chamber of Commerce of the United States.

"It is not going to be an easy task," said W. S. Gifford, Director of the Council of National Defense, "to organize industry in this country completely, but we think we are going to do it effectively, so that we may go ahead and have these new war service committees of the Chamber tell the government what can and what should be done. It is obvious that some industries are going to be more essential than others, but it would be foolhardy to think that the time will not come when the so-called less essential industries may not be needed."

"One mistake," said Daniel Willard, chairman of the War Industries Board, "has been made. We have concentrated our orders too much in certain localities. This has brought about a housing problem, a demand too great for electric power, and a transportation problem."

OUTLOOK FOR AMENDED TAX LEGISLATION

Possible changes in the war revenue law applying to perfumes, toilet preparations, soaps, etc., are not thought likely at this time, though some members of the Ways and Means Committee of the House of Representatives are understood to be agreeable to certain changes. Others, however, oppose them.

OUR UNPARALLELED PROBLEMS.

(*From Secretary of the Treasury McAdoo's Report*)

America's entry into the European war brought the country face to face, with unparalleled and unusual financial problems, both in their variety and magnitude. To these were added the inevitable accompaniment of many other problems arising out of essential economic readjustments necessitated by the war and the transformation of an unarmed and peaceful nation into a formidable armed combatant.

* * * * * * *

"Business as usual," can not, of course, be adopted as the guiding principle in time of war. Business must be readjusted to the war-making function of the Nation.

The law fixes the rate on the products of the industry at 2 per cent of the wholesale value. This tax, it is estimated, will yield comparatively little revenue in these days of war budgets carrying ten to twenty billions. On the whole, the industry is believed to have gotten off easily.

The House of Representatives passed the war revenue bill first with a provision for a 5 per cent. tax on perfumes, cosmetics, toilet preparations, etc., but the Senate reduced the rate to 2 per cent., and the Conference Committee on the bill agreed to the latter rate.

Representative Rainey of Illinois, ranking member of the Ways and Means Committee, says he is inclined to favor raising the tax to 5 per cent., but Chairman Kitchin of that committee is disposed to let the tax stand at 2 per cent. He is in favor of taxing incomes and war profits "all that the traffic will bear."

Mr. Rainey says that if the American income tax rate was raised to the level of the British rates there would be a yield of $4,000,000,000 revenue from this source alone. Mr. Rainey incidentally remarks that there is no use for anybody looking forward to a reduction in taxes because he says that never again will any person now living pay lower taxes than they will pay next year. If the war runs along for a year or two more he expects that there will be an annual interest charge for this government to meet upon Liberty Bonds of $500,000,000, besides high government expenses in other lines.

The Treasury Department is collecting data as to complaints against the war revenue law, with a view to possible consideration by Congress of alleged inequalities and mistakes in it and their removal or correction by amendments, in connection with the next big war revenue bill. Latest information, however, indicates that there is no present intention to amend the law in the manner referred to, as authorities are said to want to know just how it works out before changing it. No complaints in particular have been reported against unfairness in the application of the tax on perfumes, etc.

There is every indication that another big war revenue bill will be passed at this session of Congress. Consideration of it will likely begin well along in the winter, it is expected.

In connection with its investigation of war disturbances in industry, the United States Tariff Commission, according to information received from its officials, is not unlikely to look into the question of chemicals used in the perfumery, soap and allied industries, along with its inquiry into the dyestuff situation. A statement issued by the Commission with reference to its war disturbance investigations is in part as follows:

"The Commission will endeavor to ascertain the extent to which normal conditions of supply have been disturbed and what new sources of supply exist, including the character and source of imports. The inquiry will extend to definite information concerning facts now apparent and tendencies developing in particular lines of industry; new plants and extensions of old plants because of war demands; changes in processes and methods due to war conditions; the more or less permanent character of such changes; and preparations for adjustment to normal conditions after the war."

BUSINESS KEEPS BOOMING.

Twenty-six new companies were formed during November for the manufacture of drugs, chemicals and dyes. The authorized capital involved in the organizations was $54,777,000. This figure is approximately nine times as large as the total for October, during which month a value of $6,022,000 was attained. The November rating compares with $12,925,000 for September. November's level was the highest reached in any single month since the outbreak of the war. The month of February, 1916, comes next with a value of $37,915,000. It is interesting to note in this connection that of the authorized capital invested during last month, $34,245,350 was represented by a single concern. The remaining value was accounted for through the formation of fourteen other companies.

ALWAYS PRESS THE RIGHT BUTTON!

The worst rogue on earth has a decent spot tucked away somewhere. The trouble is that when a man turns rogue everybody wants to keep him classified. The devil once, for a purpose, wore a stole; but we've also heard of priests in crimson. *Find the button* that presses the contact that reaches the current of a man's best self, and press it. The other buttons don't count.—*Richmond Times-Dispatch.*

WAR REVENUE TAX RULINGS.

In our flavoring extract and soap industry departments will be found some rulings of special interest to those lines of trade. In addition under date of November 24 Internal Revenue Commissioner Roper promulgated the following of general interest:

(*g*) PERFUMES, ETC.

Shaving soap, toilet soap, witch-hazel, Ivory and Pearl soaps, petroleum jellies for toilet purposes, chipped soap in barrels or kegs for export are taxable.

All hair tonics are specifically taxed by this section.

Raw materials, such as rose oil, etc., to be manufactured into perfumes, etc., floor oils, floor wax, kitchen soap powders, and other articles used exclusively for household and not for toilet purposes, are not taxable.

Containers of perfumes, etc., if billed and shipped separately, are not taxable. If sold together, the tax must be computed upon the combined price of the perfume and the container.

Branch warehouses carrying a stock of taxable articles should, unless absolutely separate from the parent house, make reports to the parent house, the latter being liable for monthly returns for the taxes on the sales.

* * * * * * * *

Where the owner of a formula contracts with a manufacturer to manufacture a certain amount of his product, and to bottle, label, carton, and prepare same for shipment and delivery to owner of formula, the labels containing formula owner's name and address only, the formula owner is the manufacturer of the goods and will have to pay the tax. If under these circumstances, the formula owner sells a part of this preparation at retail, he must render return for sales tax upon price for which goods are sold.

WAR STATUS OF AUSTRIANS.

Postmaster Patten invites attention to the following notice issued by the Postmaster General:

"Declaration of war with Austria-Hungary will not change the status of citizens or subjects of Austria-Hungary resident in this country. Such persons are not included within the term 'enemy' as employed in the Trading with the Enemy Act, and their property in this country will not be molested or interfered with in any way.

"Deposits in the Postal Savings Banks of the United States, and deposits in other banks and banking institutions, belonging to citizens or subjects of the Austro-Hungarian Empire, resident in this country, are not liable to seizure by the Government and will not be taken into possession by the Alien Property Custodian. There is no reason whatever why such persons should be concerned about their property, real or personal, or their funds in bank, or securities or other investments.

"Under the Trading with the Enemy Act the test of enemy character is one of residence and not nationality. The Alien Property Custodian will take into his possession only the property in this country held for, or on account of, or for the benefit of persons who are actually resident within the enemy territory."

PERFUMERS' ASSN. BOARD MEETS.

A special meeting of the Executive Board of the Manufacturing Perfumers' Association was held December 19 at the Hotel Biltmore, New York, and was attended by the following members: A. M. Spiehler, Walter Mueller, D. H. McConnell, Gilbert Colgate, P. E. Page, V. B. Thomas, and W. A. Bradley.

After routine business had been disposed of a minute was adopted to record the regret of the association on the death of A. B. Calisher, and the secretary was instructed to draw up a suitable resolution. The vacancy caused by the death of the treasurer was filled by the appointment of Secretary Mueller to fill the unexpired term.

The resignation of Emmett B. Keller, assistant secretary, to take effect January 1, 1918, was accepted with regret, and Frank B. Marsh was appointed to the place. Mr. Marsh, when connected with the Theo. Ricksecker Co., was an officer of the association, from secretary to president, and should therefore perform the duties of the position very acceptably.

The date of the next convention was fixed for April 2, 3 and 4, 1918, and it will be held in New York. Jules Smucker, sales manager of the Metal Package Co., Brooklyn, N. Y., was appointed chairman of the Entertainment Committee, so a well-arranged convention may be expected.

The next meeting of the board will be held early in January.

URGES TRADE ACCEPTANCES.

That banks throughout the country can go a long way in encouraging the use of trade acceptances by indorsing them is the opinion of William F. H. Koelsch, vice president of the Bank of the United States and member of the American Trade Acceptance Council. As president of the New York Credit Men's Association he made a special study of trade acceptances, and is one of the most ardent advocates of the system as a substitute for open-book accounts.

"By adding their indorsement to trade acceptances," said Mr. Koelsch recently, "banks give them the intrinsic value of bankers' acceptances and enlarge the field for credit expansion to meet the commercial needs of the country. It is in this respect that the interrelations of the bankers' and trade acceptances becomes most apparent."

CHEMICAL INDUSTRIES INQUIRY.

The Tariff Commission is undertaking an inquiry into the significant developments that have taken place in the chemical industries since the passage of the tariff act of 1913. Changes which seem likely to alter permanently the conditions of international competition or the course or volume of foreign trade are to be special subjects of study. All persons having direct knowledge of pertinent facts in regard to any particular industry or product are invited to submit a statement to the Tariff Commission.

WAR TRADE MANUAL FOR SHIPPERS.

Since considerable of the data in the "Rules and Regulations of the War Trade Board," which has been distributed very widely throughout the country, has now been superseded by new rulings and lists, the Division of Information of the Board is preparing a "War Trade Board Manual for Shippers," which will contain only data in force at the time of its publication.

TO COMMANDEER ALCOHOL.

Conservation of food supplies sometimes used in the manufacture or distilling of alcohol or alcoholic beverages and the commandeering of all distilled spirits to facilitate the manufacture of munitions and other military and hospital supplies, are ordered in a bill introduced in the House on the opening day of Congress by Representative Randall, of California. This measure is as follows:

Section 1. That from the date of the approval of this act no person shall sell, manufacture, transport or import, nor shall any person use any food, fruits, food materials or feeds in the production of alcohol or alcoholic beverages, except for governmental, industrial, manufacturing, scientific or medicinal purposes during the term of the present war.

Sec. 2. That the President is authorized and directed to commandeer all distilled spirits in bond or in stock for sale at the date of the approval of this act for redistillation to meet the requirements of the government in the manufacture of munitions and other military and hospital supplies. The President shall determine and pay a just compensation for the distilled spirits so commandeered; and if the compensation so determined be not satisfactory to the person entitled to receive the same, such person shall be paid 75 per centum of the amount so determined by the President and shall be entitled to sue the United States to recover such further sum as added to the said 75 per centum will make up such amount as will be just compensation for such spirits, in the manner provided by section 24, paragraph 20 and section 145 of the Judicial Code.

INSECTICIDE AND DISINFECTANT MANUFACTURERS.

The fourth annual convention of the Insecticide and Disinfectant Manufacturers' Association was held in Washington, D. C., at the club rooms of the Old Colony Club, at the Hotel Raleigh, on December 10 and 11. Interesting reports were made on legislative and other timely matters. The following officers were unanimously elected for 1918:

President, Frank Hemingway; first vice-president, A. S. Hickerson, of the Worrell Manufacturing Company, St. Louis; second vice-president, Phineas T. Merrill, of the Danforth Chemical Company, Leominster, Mass.; secretary, Benjamin M. Kaye; treasurer, Harry J. Schnell. The board of governors was elected, consisting of the just-mentioned officers and H. W. Cole, of the Barrett Manufacturing Company; H. R. Colman, of the Sanitas Company, and T. J. Walsh, of the Phinotas Chemical Company.

ADVANCEMENT OF SCIENCE ASSN.

The American Association for the Advancement of Science will hold its seventieth meeting in Pittsburgh from December 28, 1917, to January 2, 1918. This will be the sixteenth of the Convocation Week meetings inaugurated by this Association. For many reasons, this will be an important meeting. The address of the retiring President, Theodore W. Richards, of Harvard University, will be devoted to one of the war problems and nearly all of the symposia relate to the very unusual conditions at present existing. Following the great meeting in New York last winter, it is expected that the interest in this meeting will greatly exceed that of former meetings and that there will be a large attendance and vigorous and timely discussions.

BABSON'S TRADE OUTLOOK.

Roger W. Babson, the noted statistical and trade expert in his current outlook, gives the following survey of business conditions, based upon thorough investigation and careful observation of the field:

War Restriction Hastens Readjustment.—With our government and our allies spending nearly $20,000,000,000 a year in the United States, we cannot fail to have a great volume of business as long as hostilities continue. We must, however, again emphasize what we have repeatedly warned would take place. Priority rulings, together with economy in some lines, are bearing hard upon certain trades. For such industries the next few months will be a very critical period. We cannot emphasize this fact too strongly. Your whole success while the war lasts will be measured by the degree to which you conform to the war conditions. Some lines of business are going to be overloaded with work and others will be idle because of shortage of materials, transportation, etc., which are monopolized by government needs.

Important Benefits from Organization.—Artificial barriers are necessarily being placed in the way of industries deemed non-essential to the war. *Hence it is of highest importance that every line of business shall be fully represented in the Washington deliberations in order that its status shall be rightly determined.* We urge upon business men the great advantage of trade organization in dealing with present war problems. Many industries are already well organized. In offering their aid to the government or in presenting their case before the priority committee, there is a tremendous benefit in having one committee to speak for the whole industry. The purpose of such organization is not to hinder the government in dealing with industrial problems, but to help it. Moreover, in the matter of handling government orders, a live trade organization is one of the most effective agents. We mentioned last week the movement of the building trades. The same need for organization also exists among many other lines.

What Does Conscription of Labor Mean?—Northcliffe's plan to conscript labor will raise a select body of volunteers who will supply the thousands needed for government work. They will be guaranteed as to wages and conditions. On the face of it this seems like a triumph for the conservative side. But when we think what it will mean to put national labor service over against private employment, it will be seen that this move is in the line with the great nationalizing tendency of the last three years. Private employers will be forced into competition with this body of men, who will be crowned with honor, as well as with wages and conditions of work.

BOOST THE THRIFT STAMPS.

The daily papers have so fully exploited the War Savings Stamps and the Thrift Stamps that a detailed explanation of them is unnecessary. But we must urge everybody to take them seriously. Employers who have gone into the Liberty Loans can help along personally, but of greater importance is urging their employes to get busy. The interest compounded quarterly at 4 per cent and the small amounts that can be invested, from 25 cents up, form an incentive to even small wage earners to save and gain by doing so, even if they are thoughtless enough to care little about benefiting their country. For employers it is of more than patriotic importance.

OUR ADVERTISERS—XXXVI.

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Gentlemen—It affords us pleasure to express the satisfaction we have had from our advertisement in your valuable medium, and we are exemplifying same by giving you a year's contract for double the space we have heretofore been occupying.

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Very truly yours,
S. B. Penick & Company, Inc.
S. P. Nickells.

IMPORTS AND EXPORTS PROCLAMATIONS.

President Wilson on November 28 issued two proclamations putting under the licensing control of the War Trade Board various articles which can not be exported or imported during the war without the permission of the board, violations being subject to fine, or imprisonment, or both.

On commodities of interest to our readers the following imports are prohibited except under license: Beans of all kinds, castor oil, cocoanut oil, copra, palm oil and soya bean oil.

The second proclamation makes unlawful the export of the following items without license: Caustic soda, soda ash, methyl-ethyl ketone and wood alcohol, animal oils and vegetable oils, beans, soya bean oil and various other products.

TRADING WITH THE ENEMY LIST.

Under date of December 5 the Washington Government issued a list of some 1,600 business concerns in Latin-America with which trading is prohibited under the Trading With the Enemy Act, penalties being provided for any violations of the same. This list is available for our readers who may be interested. It is too long to reprint. The Government is collecting a list of non-enemy firms in order to minimize the inconvenience to American merchants and to interfere as little as possible with what the law considers legitimate trading with the merchants of the Latin-America countries.

DELAYS IN MAIL DELIVERY.

Owing to the unheard of burdens imposed on the railroads by war conditions, some branches of the postal service have been seriously affected. This applies even to some of the government publications, and a weekly official publication published normally on Tuesday of each week and which in normal times was always delivered to us on Thursday morning, now reaches us on Monday or Tuesday of the following week. The post office department is doing its best probably in trying conditions.

Some of our readers may receive this journal rather late in the month, and the only suggestion we can offer is to consult the local postmaster, who will ascertain whether there is any additional local delay. First-class mail (letters and post cards) are given preference, but all other classes are liable to delay.

FUNCTION OF THE PERFUME IN THE PLANT

It has long been a matter of speculation as to the exact role the perfume plays in the life history of a plant. There can, of course, be no doubt that several purposes may be served by the essential oil, and that all perfumes do not play the same part in the plant economy.

For example, we know that some essential oils are purely pathological secretions, such as is generally the case where they are associated with resins, as oleoresins obtained by wounding the plant. In such cases it is reasonable to assume that the essential oil is acting as a solvent for the resinous material to assist in its distribution over the wound to effect its healing, and that after having effected this purpose it evaporates and has no further interest in the life history of the plant.

It has often been said that some essential oils merely serve an excretionary purpose. There seems to be no evidence in this direction, except the failure to find any other function for the oil, and it is doubtful whether the statement is correct. There is every probability that the presence of essential oils in the roots of plants serves to protect the root from the ravages of small insects and similar pests. Most root oils are fairly odorous and strongly antiseptic in many cases, and are objectionable, even if not actually fatal, to insects. The presence of many essential oils in the green portions of the plant is probably protective in origin. The green parts of plants have so high a food value that many plants would be in danger of complete extinction on account of the ravages of animals if they were not protected in some way. The immediate function of the poisonous alkaloids and glucosides is probably a protective one, and this is probably equally true of numerous essential oils. Whether animals avoid a non-odorous poison plant, except after having once suffered pain by eating it, or whether they avoid it instinctively, we do not know. The presence of an odor, however, which is objectionable to the animal constitutes an obvious warning to the animal, who avoids eating that which offends his nose. Such plants as *Datura Stramonium, Hyoscyamus niger, Conium maculatum, Juniperus Sabina,* and numerous others, possess odors, some very faint, some strong, which cause grazing animals to completely avoid them. There are also plenty of plants which are odorless until the leaves are broken or bitten, when possibly an odor is developed by the decomposition of a glucoside. Plants of this type are avoided by animals, possibly after finding the disagreeable odor by experience.

The perfume of the great majority of plants is, however, agreeable and attractive rather than disagreeable and repulsive, and many perfumes are sufficiently attractive to herbivorous animals to render them eager to devour the plants greedily. Such, for example, is the sweet odor of clover. In such a case, since the perfume assists in the destruction of the plant, one must seek elsewhere for its primary function.

It is possible that in an enormous number of cases the principal function of the perfume in the plant is correlated with that of the color—namely, to assist in the attraction of harmless insect life in order to ensure the fecundation of the plant, and so assist in the preservation of the species. In many cases we find that the perfume as elaborated in the green portions of the plant is merely transferred in an unaltered condition to the flowers, so that the leaves and the flowers have the same perfume. This is true in the case of the lavender plant, for example. In the early days of its life the green part of the plant is protected from the attack of animals, to whom the strong taste of linalyl acetate and terpenes is repulsive, whilst in the later stages, when the plant flowers and honey is secreted, the insects seeking the honey are attracted by the pleasant odor of the lavender perfume, and so fecundate the flower. But when one examines the case of the geranium, one is struck by the fact that the perfume is found practically only in the green leaves, and not at all, or not to any great extent, in the flower. One can only speculate on this difference. Is it not possible that as the flowers of the lavendar plant are comparatively small and inconspicuous, they require the assistance of the perfume as well as that of the color in order to attract the insects, whilst in the case of the geranium the perfume of the leaves attracts the insects near, and the conspicuous coloring of the larger flowers is then sufficient guide to the insects. It must be remembered that the transmission of the essential oil from the green part of the plant to the flower involves extra work in the plant economy, and Nature tends to stop wasting energy, and only performs work which is useful to the plant. Incidentally, insects appear to have a considerable predilection for the perfume of phenyl-acetic acid, traces of which appear to be developed in all honey, and impart to it is characteristic honey odor.

Von Marilaun has divided the floral perfumes into five groups—namely, the indoloid, aminoid, paraffinoid, benzenoid and terpenoid groups. His knowledge of chemistry, however, did not appear to be very extensive, and his interesting botanical speculations are sometimes marred by this fact, as at times his chemistry is quite at sea. Taking the so-called indoloid group of perfumes, which includes such bodies as skatol and indol, it is a fact that many of the flowers possessing this type of odor, including many orchids and aroids, yield essential oils whose odors are quite revolting, sometimes recalling that of decomposing flesh or even rotten fish. It is a strange fact that flowers having this type of odor very frequently are so marked with livid spots, violet streaks and reddish brown veins, that they bear a marked resemblance to small animal corpses in appearance as well as in odor. It is hardly to be doubted that in these cases the odor is entirely protective in function.

Coming to Von Marilaun's aminoid perfumes, which are based on amines, including trimethylamine, there can again be little doubt that the perfume is entirely protective in function, and that the odor of these derivatives of ammonia is found to be highly objectionable to most animal life, except to the particular group of insects who frequent the flowers for the sap, and so effect fertilization.

Von Marilaun's division, the "benzenoid scents," is not a very happy one, as it embraces every shade of odor which can be referred to the benzene nucleus as its parent hydrocarbon, besides some which have no relationship whatever with that substance, nor would a chemist with any knowledge of essential oils subscribe to all his views as to the "paraffinoid scents."

There is one thing which strikes the careful observer

as very remarkable. Honey may have a very different flavor and odor according to the flowers from which the bees have collected the saccharine sap. But practically all honeys, however different in perfume, have an underlying odor which is common to them all, and which may be termed the "honey" odor. This is so similar to the odor of synthetically produced phenyl-acetic acid that one can scarcely doubt that it is due to this body. So that it would seem that either phenyl-acetic acid, or a substance which is easily converted into that body by the bee, is the particular perfume which attracts the bee to collect the saccharine exudation of the flower, and to fecundate the plant at the same time.

It is true that many flowers emit a perfume by day which is different to that which is emitted during the night. How far this is to be explained by the types of insect which are liable to visit the plant by day and by night respectively one cannot say. But it may be that the day visitor is harmless and attracted by the day perfume, and the night visitor harmful and repelled by an objectionable scent.

Comparative anatomical studies show an enormous difference being the olfactory organs of human beings and of animals, so that the perception of perfumes may be, and indeed must be, very different in many animals from what it is in the human being. There is every reason to believe that the olfactory nerves of many insects are very susceptible to some perfumes, whilst totally unable to perceive others. For example, the flowers of the ordinary Virginian creeper are green, and can have no color attraction to insects. To the human nose, too, they are odorless, and yet bees fly to them from considerable distances, in such a way as to indicate that the attraction is entirely a question of smell. Another example, cited by Von Marilaun, is that of *Bryonia dioica*. The flowers are staminate on one plant, and pistillate on another, and the pollen is not powdery, so that insect fertilization is necessary. The flowers, especially the female ones, are green and insignificant, and half hidden under the foliage. Many insects fly past them without noticing them at all, and they are almost exclusively visited by one of the *Hymenoptera*, namely, *Andrena florea*, which can find these flowers even in the most out-of-the-way places. It must, therefore, be assumed that the perfume of this particular flower can be perceived by this particular insect, and not by others. There are many other plants whose flowers, to the human nose, are odorless, but which although quite insignificant in color and appearance, attract certain insects, and only those, apparently on account of a perfume which they alone can perceive. Popularly speaking, these various considerations lead to what is known as "flower fidelity," the true extent of which can scarcely be established at present with the limited powers of observation at our disposal.

Some of the indiloid scents, which are to be described generally as objectionable, have a marked attraction for certain flies of the class *Scatophaga, Sarcophaga* and others, which are to be found on carrion and excreta, whilst they present no attraction to the butterfly or bee. Many aminoid scents attract beetles and some of the *Hymenoptera*, but never, apparently, butterflies. But it appears that no insect which is attracted by an aminoid perfume pays any attention to the honey odor. Butterflies never even pause near a flower having the particular type of odor associated with honeysuckle, and do not appear to be able to perceive it.

Von Marilaun has recorded the following examples of the power of insects to perceive odors at a distance. Some years ago the aroid plant *Dracunculus creticus*, from Cyprus, was planted on the edge of a small group of coniferous plants in the Vienna Gardens of Botany. No refuse, manure or similar decomposing matter was present anywhere near, nor were any flies or beetles of the type that are attracted by dung or carrion known to be anywhere in the neighborhood. During the summer the large bell-shaped flowers of the aroid plant opened, and immediately carrion flies and dung beetles arrived from all directions. The peculiar indole-like perfume was only noticeable a few yards off by human beings, but the insects must have come from many hundreds of yards to the flowers, attracted by their perfume. In certain parts of the same botanic gardens there was a honeysuckle plant, and in the summer time, when twilight arrived, this was found to be regularly visited by the moth known as the convolvulus hawk moth, *Sphinx convoluli*. These moths are accustomed, after they have abstracted the honey from the flowers, and when darkness takes the place of twilight, to settle down near the plant on the bark of old tree trunks or on fallen leaves, and remain there with folded wings as if dead until next evening, taking advantage of the color protection afforded by the bark or dead leaves. During a certain summer Von Marilaun carefully picked up one of these moths so resting and marked it with cinnabar, and removed it with the bark to which it was adhering to about 300 yards away from the honeysuckle plant. When twilight came on the moth woke up. waved its olfactory feelers about a few times, and then rose and flew perfectly straight to the honeysuckle plant, and was found with its cinnabar mark sucking the honey from the flowers.

A certain number of plants are, apparently, quite odorless during the day, but exhale a strong perfume during the hours of the night at which the insects which favor the plant in question are usually in flight. Such, for example, is the case with the flowers of *Hesperis tristis.—Perfumery and Essential Oil Record.*

PERFUMERY TRADE OF ADEN.

(Consul Addison E. Southard, Aden, Arabia.)

The value of the various classes of perfumery used in the Aden district is estimated (no accurate figures are available) at $20,000 a year. The bulk of the perfumery sold here is of local origin or preparation, and it makes up probably three-fourths of the total amount used. The remaining one-fourth consists of cheap qualities imported mainly from England, France and Switzerland.

The Arab in this district is very fond of perfumery, but as his purchasing power is generally limited he must have low-priced goods. He and his women are particularly fond of musk and of three flower scents—jasmine, narcissus and rose. Musk is the most widely used of these four and is usually the artificial scent imported from Switzerland in the form of liquid, crystals, or powder. The Aden consulate is informed by local native perfumers that they now pay 50 shillings ($12.15) a pound in Switzerland for artificial musk.

Next to these artificial scents in favor is the scent of an Indian wood known as aloes wood and by the native name of "ood," although it is generally used in a quite different form. This wood is said to be the inner bark of a tree

which grows in the Straits Settlements, Burma, and British India. According to local information these trees are botanically known as *Aquilaria ovata* and *Aquilaria agallocha*. The "ood" used in Aden is imported from Calcutta. Next in favor with the Arabs comes the various mixtures made from the locally prepared civet and ambergris. (The principal local uses of civet in perfumery are discussed in *Commerce Reports* for June 27, 1917.) The civet comes from Abyssinia. Ambergris is marketed by fishermen, who get it along the coasts of the Red Sea and Gulf of Aden, the best quality being considered that which comes from Shukra, an Arabian port east of Aden.

Most of the perfumery imported is in the form of chemical musk and artificial narcissus, jasmine, and rose. All of that found in local perfumery shops was of Swiss manufacture, but import returns indicate that some of it is probably bought through English and French sources. These scents are in concentrated form and are very powerful. The Aden perfumers, who are usually Indians, use these concentrated scents in the preparation of toilet waters, ordinary spirit perfumes, and hair oils. An article is prepared which can be sold very cheaply, and which, having a powerful odor, is very satisfactory for the local trade. A 2-ounce bottle of perfume can be sold for 8 annas (16 cents) and a 2-ounce bottle of hair oil, which is often made by adding only a little scent to cocoanut oil, sells for the same price. Rose water and other toilet waters locally prepared can be purchased at 12 annas (24 cents) per pint bottle. There are even some cheaper grades, but these prices are the average.

GERMAN PERFUMES—"OODI" WELL LIKED

The Germans once tried to compete with this locally prepared perfumery, but with little success. In one shop there was found a considerable stock of German perfumes, put up in fancy bottles which appeared to contain about 3 ounces. These perfumes were in the popular scents of musk, narcissus, and jasmine. The retail price was 4 rupees ($1.30), but the shopkeeper said that they were too expensive for the native trade and that he made only an occasional sale because of the attractive bottle. It is a very evident fact that the native must have a cheap perfume, and that it is not possible under present conditions to develop a demand for imported perfumes unless they are very strong and can be sold at near the low prices for which the locally prepared article sells.

There is a liquid perfume prepared from the "ood" above mentioned and it is quite popular on account of its lasting odor. This perfume is called "oodi," and one application will last for some days. It is said that a garment or a handkerchief which has "oodi" on it will retain the scent even after being laundered. "Oodi" is sold in three different grades, the price per tola (a rupee weight) being 7, 4½, and 2 rupees ($2.25, $1.45, and $0.65), respectively. The second and third grades have much the largest sale, and although the price would appear to be a little high, this perfume is fairly cheap considering its lasting qualities.

"OOD" USED AS INCENSE

There are two uses for "ood" (the wood itself). In one the pieces of wood are burned in incense pots. The smoke is used to impregnate various garments with the scent. On festive occasions, when many guests are present, the native host will charge his incense pot with "ood" and pass the vessel around to the guests that they may scent their handkerchiefs, turbans, or tarbooshes.

The other use for this wood is in the preparation of an incense paste. This paste is made in various ways, but its principal ingredients are sugar and perfumes. Sometimes small pieces of "ood" only are added to the sugar, and sometimes there will be a combination of the sugar, "ood," civet, ambergris, or musk. The paste is dried, cut into cakes, and burned in incense pots to produce smoke with which to impregnate garments held over it with a strong and lasting scent. This method is much used by the Arab, Indian, and Somali women for perfuming the garments which they are about to don.

"Ood" is of two qualities—black and brown. The black sells for about 30 rupees ($9.75) per pound and the brown for about 10 rupees ($3.25). The wood is quite light in weight.

CONSIDERABLE TRAFFIC IN AMBERGRIS—"BARMOOMI"

Ambergris is used both as a medicine and as a perfume. It is employed mainly by local perfumers for mixing with other cheaper scents and as an ingredient in the incense cakes above described. As a medicine it is often taken in coffee or tea. Two of its principal medicinal virtues, according to local belief, are the curing of colds and the strengthening of convalescents.

There is a considerable quantity of ambergris brought into the Aden market, a great deal of which is exported to Europe, though no figures are available as to the amount of this commodity handled here. The Arab fishermen bring it in. They find it along the coast of the Red Sea and Gulf of Aden from Hodeidah to Shukra. The Arabs have an interesting way of testing ambergris. A piece will be placed on a sheet of paper and a lighted candle held under the paper. If the ambergris breaks it is considered of inferior quality; if it slips from the paper without sticking it is considered as of first quality. They believe that inferior ambergris is that which has been swallowed by fish and then thrown up. Local experts assort ambergris into five grades, for which the prices per ounce are 75, 50, 20, 12, and 5 rupees ($24.35, $16.25, $6.50, $3.90, and $1.60), respectively.

Another perfume having a small sale in this market is known as barmoomi. It is said to be made from various flowers which grow in East Africa. The local price is from 1 to 3 rupees (approximately $0.35 to $1) per tola. Very little is known about this perfume by local dealers. It is very powerful in odor—as it needs must be to meet with the favor of the local native.

ATTAR OF ROSES—FOREIGN COMPETITION

At times an inconsiderable quantity of attar of roses is said to be obtained from the Turkish Yemen by local perfumers, for use in the various classes of perfumery which they prepare. Usually, however, the chemical rose scent from Switzerland seems to give a stronger and more appreciated odor than the natural product.

The only conclusion to be obtained from a study of the local perfume market is that there is not a favorable chance for prepared imported perfumery to compete. The native perfumers, who control the trade, are skilled in mixing powerful scents, which they can sell very cheaply. The only possible sale for imported prepared perfumes would be to the small European population and to a few wealthy natives. This limited trade is at present supplied with excellent French perfumes, which can be sold at very reasonable prices.

Comparison of American and Oriental Storax.

Since the imports of liquid storax have been practically discontinued, it has become necessary to look for American sources. The liquid or semi-liquid balsam obtained from *"Liquidamber styraciflua,"* known in the United States as "sweet gum," has been recognized for a long while and resembles liquid storax of the Levant, showing only slight variations in composition. A study of the analytical results leads to the following conclusion: "Sweet gum" may be used in the place of liquid storax with good results; it carries more cinnamic acid than commercial storax; the odor and fixative properties of "sweet gum" are superior to the commercial variety of storax imported into the United States; the southern portion of the United States should furnish all the storax required; the old hardened balsam may be used in the manufacture of chewing gum.—*Abstract from Journal Ind. Eng. Chem.*

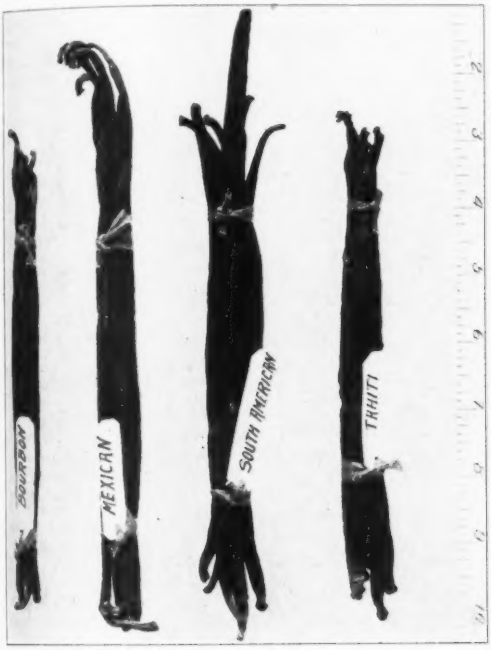
Lemon Grass Oil from India.

White-stemmed lemon grass oil from India was examined and compared with a previous sample which was insoluble. The results showed that the oil was normal and that occasional insolubility is not due to chance inclusion of other wild grasses. It is thought that the insolubility is due to the distillation having been carried too far.—*Bull. Imp. Inst.*

THE EFFECT OF CURING ON THE AROMATIC CONSTITUENTS OF VANILLA BEANS*

By FRANK RABAK, Bureau of Plant Industry, U. S. Dept. of Agriculture.

The fruit of vanilla has long been used as a flavoring agent. The plant is native to Mexico, where it is at present extensively cultivated for the production of the vanilla beans of commerce. It has been introduced into a number of other tropical and subtropical countries where it is also profitably cultivated. Among the other sources are South American (Guadeloupe), Tahiti, Reunion, Madagascar, Comores, Seychelles and Mauritius.



COMMERCIAL VANILLA BEANS.

Vanilla beans as found on the market are described by the United States Pharmacopoeia[1] as the "cured, full grown, but immature, fruit of *Vanilla planifoila*, Andrews. (Family *orchidaceae.*)"

Vanilla is used for flavoring purposes in the form of the so-called extract or tincture of vanilla, which is prepared by extracting the coarsely comminuted beans with a hydroalcoholic menstruum varying in strength from 45 to 65 per cent.

The aroma of vanilla, to which the flavor is attributed does not pre-exist in the beans, but is formed by a chemical reaction induced during the drying or curing process to which the beans are subjected after harvesting.

Behrens[2] states that ripe vanilla beans have little or no odor, but strong in odor by curing, due to the splitting up of an existing glucoside with the formation of the compound vanillin. The above statement regarding the odor of vanilla was confirmed by Busse,[3] who states that vanillin is formed from a non-odorous body partaking of the nature of a glucoside.

In an extensive research with vanilla, Lecomte[4] found that the fruit of vanilla contained, besides the glucoside coniferin, two ferments, one an oxidase and the other a hydrolyzing agent. The latter converts the glucoside coniferin into coniferyl alcohol and glucose, the former oxidizing this alcohol into vanillin.

Later investigations have shown that the agreeable aroma of vanilla is not due alone to the compound vanillin, but is strongly influenced by other substances of entirely different character.

Walbaum[5] states that the value of vanilla beans does not depend solely on the vanillin content. The oleoresinous constituents of the beans were examined and found to contain anisaldehyde and anisic alcohol besides other compounds which could not be identified, but which possessed a characteristic agreeable odor.

The presence of other odorous constituents in vanilla beans is also mentioned by Iserman,[6] who states that the special aroma and taste is probably due to vanilla resins. Busse[7] states that vanillin is present in the living fruits only in insignificant quantities, and is mainly produced in the process of curing. Vanillin is not the sole criterion of quality, and does not represent the natural aroma of the fruit. Besides vanillin there is present in the beans vanillic acid, resin, oil, sugar, mucilage and tannin.

Up to the present time attention has been largely directed towards the vanillin content of the beans, only bare mention being made of the resinous constituents, which are known to impart much of the pleasant flavor to the cured beans.

CURING OF BEANS.

As has been previously stated, the flavor of vanilla beans is brought about by a curing process with a consequent development of the true flavor upon which the efficacy of the beans as a flavoring material depends.

The curing process varies somewhat according to the source of the beans, the prime object, namely, the evaporation of the moisture and the formation of the flavoring constituents, being attained in every case. This is accomplished in a general way by a process of heating and subsequent sweating, the details of which vary in the different producing countries.

Two general methods are in vogue for the curing of vanilla beans, the dry and the hot water methods.

The dry method, in use in Mexico, consists essentially of placing the freshly gathered beans in the sun for several hours, after which they are wrapped in woolen cloths to promote sweating, and the process of heating and sweating is continued for several days until most of the moisture has evaporated. The final drying is usually completed in the shade. In unfavorable weather a drying oven is employed, in which the beans are sweated at a temperature of 60° C. The curing process is continued until the beans

*Published by permission of the Secretary of Agriculture.

[1] United States Pharmacopoeia, Eighth Decennial Revision, 1900, 497.

[2] J. Behrens, "Ueber das Vorkommen des Vanillins in der Vanille," *Der Tropenpflanzer*, 3 (1899), 299.

[3] W. Busse, "Vanille—Chemie der vanille Frucht. Arbeiten aus dem Kaiserlichen Gesundheitsamte," Berlin, XV, 1898 bis 1899, p. 101.

[4] H. Lecomte, "Sur la formation du parfum de la vanille," *compt. rend.*, 133 (1901), 745.

[5] H. Walbaum, "Das Vorkommen von Anisalkohol und Anisaldehyde in der Früchten der Tahiti-vanille. Festschrift, Otto Wallach. Zur Erinnerung an seine Forschungen auf dem Gebeite der Terpene in den Jahren 1884-1909," p. 649.

[6] S. Iserman, "Vanilla Beans: Chemistry and Character of Constituents," *Western Druggist*, July, 1910, 358-362.

[7] H. Busse, "Studien ueber die Vanille," *Apoth. Zeit.*, 13 (1898), 894.

TABLE I—TREATMENT, LOSS IN WEIGHT AND CURING OF VANILLA BEANS AT ROOM TEMPERATURE AND IN THE WATER OVEN
Immersion in water three successive times at temperature given, for periods indicated, at intervals noted

	BEANS CURED AT ROOM TEMPERATURE				BEANS CURED IN WATER OVEN (40–60° C.)			
TREATMENT	No.	Per cent Loss in Weight	Curing Period Days	REMARKS	No.	Per cent Loss in Weight	Curing Period Days	REMARKS
None	1	53.0 66.4	14 24	Curing progressed slowly for 7 days after which color developed rapidly to uniform brown; beans well cured in 14 days. At end of this time, however, beans were wrapped in wax paper and allowed to dry. Cured beans were dark brown in color, soft, pliable and possessed fine aroma.	2	32.5 67.0	8 33	Beans became uniformly brown in 6 days, sweating continuous until 8th day when beans were wrapped in waxed paper and allowed to dry until soft and pliable. Beans possessed characteristic but mild aroma.
Temp., 40° C. Period, 30 sec. Interval, 1 min.	7	39.3 68.5	14 46	Curing proceeded about same as No. 1. After subjecting to sweating process for 14 days beans were uniformly brown in color. Beans wrapped in waxed paper and allowed to dry until they presented a wrinkled appearance and proper pliability. Beans possessed very fine aroma.	8	49.6 66.6	8 28	Beans all brownish color in 5 days with good odor developing. After 8 days' sweating in water oven beans were wrapped in waxed paper and allowed to dry slowly until proper texture was attained. Odor was fine vanilla-like characteristic but not especially strong.
Temp., 60° C. Period, 20 sec. Interval, 1 min.	5	36.5 66.0	11 33	Beans became yellowish green after third day. After 11 days all were uniformly brown in color and had charactristic wrinkled appearance. Beans wrapped in waxed paper and allowed to dry to proper flexibility. Beans characterized by strong and exceptionally fine odor.	6	41.4 66.2	8 33	After 5 days beans were uniformly brown in color with pronounced odor and apparently curing rapidly. After 8 days' sweating beans were treated as above and dried to proper pliability. Odor was strong, vanilla-like.
Temp., 80° C. Period, 10 sec. Interval, ½ min.	3	40.7 66.2	12 24	Beans assumed brown color and developed odor more rapidly than any of above. After 12 days' sweating beans wrapped in waxed paper and set aside to dry. After 12 days of drying beans possessed a most exquisite aroma, deep brown color and fine texture.	4	31.2 64.0	8 29	Uniformly brown after 4 days' sweating, curing more rapidly than any of above and becoming soft and pliable. After sweating 8 days beans treated as above. Final appearance excellent both as regards color and pliability. Odor strong.
Temp., 90° C. Period, 10 sec. Interval, ½ min.	9	23.3 66.1	10 28	Beans were all pliable, wrinkled and brown in 10 days with odor fairly strongly developed. Allowed to dry in air for 18 days. Beans pliable and wrinkled with only faint odor and pale brown color.	10	30.0 66.3	3 25	Beans possessed a uniform dark brown color in 2 days with prominent odor developing. After 3 days' sweating beans were exposed to air and dried until proper degree of pliability was reached. Strong but unpleasant odor noted.
Temp., 100° C. Period, 10 sec. Interval, ½ min.	11	35.2 64.0	10 18	Beans became light brown and soft on third day. Taken from towel on 10th day and allowed to dry in air for 8 days. Odor prominent but not strong. Color pale brown.	12	44.0 69.0	3 17	Beans uniformly brown but pale after 1 day's sweating. Odor only fair and color pale brown after 3 days. Beans allowed to dry sufficiently, the cured beans being very light in color with faint odor.

are soft and supple, and have acquired a chocolate-brown color, the complete length of time required being frequently as long as 5 months.

The hot water method, used in Reunion, consists in placing the beans in hot water (90 to 100° C.) for 10 to 30 secs., after which they are wrapped in woolen blankets or placed in a box lined with blankets, where the sweating process takes place. Subsequently the beans are exposed to the sun, and later the curing is completed in a drying room until the finished beans have the proper color and texture. This process requires from 1 to 2 months for completion.

The curing process is difficult and precarious, calling for a high degree of skill and experience. Weather conditions also have much to do with the rapidity and success of the process. The exact details of the two methods differ greatly according to locality. The general method of procedure for both processes is considerably modified in the minor details, the one object being to produce finished beans which will have the maximum amount of flavor of superior quality and at the same time will have had removed from them sufficient moisture to prevent molding when the beans are finally packed for the market. As a general rule from 5 to 7 lbs. of the fresh beans are required to produce 1 lb. of cured beans.

It is stated by Ellis[8] that the temperature of the water into which the pods are dipped before curing has much to do with the successful curing of vanilla.

Treatment with hot water supposedly kills the pods and prevents dehiscence. It is however, essential that the temperature be not sufficiently high to destroy the action of the oxidase which is present in the pericarp. A destruction of the oxidase would seriously interfere with the formation of the odorous constituents of the cured beans.

The object of this investigation was twofold. A number of modifications of the process now used in curing vanilla beans were made. It was also desired to ascertain whether the long-continued curing as now practiced is absolutely necessary for the production of beans of commerce and whether shorter time of curing noticeably affects the percentage of vanillin in the cured beans.

A comparison of the efficacy of the two general methods of curing, namely, the dry method and the hot water methods, and the effect of temperature upon the curing was sought. Furthermore, it was desired to study the effect of the various curing methods upon the formation of the oleoresins of vanilla which are present in all cured beans, and which agreeably modify the flavor of the beans.

LABORATORY CURING EXPERIMENTS.

A small quantity of green beans was obtained from Mexico through a prominent manufacturer of vanilla extract. The small ends of the beans were very slightly yellow, but were practically devoid of odor.

The curing experiments were conducted with twelve lots of beans, one-half of which were cured at room temperature, and the other half in a water oven at somewhat higher temperature. Each of the six lots cured at room temperature were given different treatment prior to the sweating and drying. The treatment consisted in dipping the green beans into water at various temperatures up to the boiling point. Each lot was kept wrapped in a soft towel and placed on the laboratory shelf to undergo the sweating and drying process.

The duplicate lots of beans cured in the water oven at a temperature of 40-55° C. received exactly the same treatment as those cured at room temperature.

A description of the treatment, loss in weight, and time of curing of the green beans at room temperature and in the water oven is given in Table I.

(To be continued.)

[8] F. R. Ellis, "Vanilla," *The Chemist and Druggist*, 67 (1905), 593.

Worry.

Old Worry is a painter who is busy night and day,
Don't let him use his brush on you or he'll paint your hair gray.
—*American Hairdresser.*

WAR REVENUE LAW RULINGS.

Under date of November 24 Commissioner Daniel C. Roper sent instructions to government officials in relation to two sections of the War Revenue Law. The rulings are not new, but form the latest official promulgation:

SECTION 313.

Alcohol which cannot legally be used for beverage purposes may be used in the manufacture of flavoring extracts.

Sirups and extracts used by rectifiers of spirits are not taxable under this section.

Extracts sold by the manufacturer to be used in the manufacture or production of beverages, commonly known as soft drinks, are taxable. If sold for manufacturing ice cream, no tax is imposed.

Ginger ale, root bear, sarsaparilla, pop, and other carbonated waters or beverages are not taxable when the manufacturer of same buys his carbonic-acid gas and pays the tax of 5 cents per pound.

No floor tax was imposed by this act upon sirups, extracts, etc., in the hands of wholesalers or jobbers on October 4.

SECTION 315.

Carbonic-acid gas used in the manufacture of ale or lager is taxable.

Carbonic-acid gas sold for use in the maintenance and operation of refrigerating plants is not taxable.

If there is a leakage of carbonic-acid gas in transit, the tax is only upon the amount of gas sold to the customer. If on account of leakage no sale is consummated, tax would not rest.

[See other rulings and Washington situation in our editorial department.]

SODA WATER FLAVORS' ASSOCIATION.

Thomas E. Lannen, of Chicago, secretary and attorney of the Association of National Manufacturers of Soda Water Flavors, sends us the following minute showing the action taken in regard to the late Selden Twitchell, whose death was announced in our last issue:

"Whereas, The directors of the National Manufacturers of Soda Water Flavors have learned with sincere regret of the death of Selden Twitchell, former president of this association, and a pioneer in the soda water industry; Therefore, be it

"Resolved, That the National Manufacturers of Soda Water Flavors express their sincere sympathy with the S. Twitchell Company and with Mr. Twitchell's bereaved family and friends in their great loss, and testify to the high esteem with which Mr. Twitchell has always been regarded as a steadfast friend, a genial companion and an honorable business associate; and further,

"Resolved, That copies of these resolutions be forwarded to the S. Twitchell Company and to the trade press."

Information in Other Departments.

Readers of the FLAVORING EXTRACT SECTION are advised that items of interest to them may be found in our Trade Notes pages, as well as in Patents and Trade Marks, and other departments of THE AMERICAN PERFUMER.

RELATIVE OIL YIELD OF FLORIDA ORANGES.

BY S. C. HOOD.

In connection with the experiments carried on to determine the commercial possibilities in the manufacture of orange oil from Florida cull oranges, it seemed advisable to determine how early in the shipping season the oil was present in commercial quantities, and also to secure some data on the relative oil yield of different varieties and from various localities. In the fall of 1915 a series of tests was made beginning at the opening of the shipping season of the early varieties and extending until well into the season for all except the very late varieties. The writer is indebted to Mr. M. G. Mastin of the Bureau of Chemistry for the material used in this study.

VARIETIES SELECTED.

The Parson Brown was selected as being the principal commercial early variety, and although mature enough to ship at the time the experiments were begun, yet the color was bright green. At the close of the work this variety was well colored. Another variety of very early maturity is the Ilsworth Early; and on November 12 it was fully mature and beginning to show a slight yellow color. The Homasassa was taken as the type of the early mid-season orange, and on the date of the first tests was still green in color, although fairly well matured. The Pineapple being one of the leading mid-season varieties, was taken as the type of this group, and samples from three widely separate localities were secured. These were still immature and green in color when the experiment began. Since the common seedlings are still extensively grown in Florida, and there are wide differences in the fruit, samples were taken from eight localities. On November 1 all of these were lived green in color, but at the close of the tests they were mature and well colored. Since the Valencias do not mature until the latter part of the winter, the tests were not continued on this variety to maturity. Most of the samples of this variety were only partially grown at the beginning of the tests, and at the close were of full size, but still very immature and green in color. Each series of samples was gathered from the same tree at intervals of one to two weeks from November 1 to December 18.

METHODS.

Each sample consisted of 12 oranges picked from the tree set apart for these tests. Usually one to three days elapsed between the date of picking and the date of the tests. The oranges were peeled with a knife and care was taken to remove all of the peel without cutting the pulp cells. Care was also taken to prevent breaking of the strip of peel and consequent loss of oil. The fresh peel was then finely ground in a food chopper and the ground material distilled with water in a Remington still. The color-

less oil secured was taken as the total oil content. Since this oil consisted almost entirely of limonene, it does not represent the actual oil content of the peel, but the loss of the oxygenated constituents would be fairly constant in each sample, and this method may be used as a relative means of the total oil determination. The percentages, Table I, were calculated on both the weight of the peel and the weight of the fresh fruit.

a lower oil content on the fruit infected by rust mite, but as the orange matures a normal amount of oil is formed. The results secured in the commercial tests on large lots of bright and russet fruit also indicate that an equal amount of oil may be secured from each kind of fruit.

CONCLUSIONS.

These preliminary results show that there is a wide variation in the oil yield of Florida oranges under different climatic and cultural conditions, and that the question of variety is likely to have some bearing on the commercial production of orange oil. The oil content has not reached its maximum until the oranges are fully mature, but the oil is present in commercial quantities before the fruit are ready for harvest.

The occurrence of heavy rainfall during the season of harvest will cause a considerable decrease in the oil content. The presence of rust mite does not decrease the percentage yield of oil of the mature fruit, but may show some effect early in the season.

PERCENTAGES OF OIL IN FLORIDA ORANGES

Variety	Locality	Percentages Calculated on Weight of Fruit: Nov. 1-6	Nov. 7-13	Nov. 14-20	Nov. 21-27	Nov. 28 Dec. 4	Dec. 5-11	Dec. 12-18	Percentages Calculated on Weight of Peel: Nov. 1-6	Nov. 7-13	Nov. 14-20	Nov. 21-27	Nov. 28 Dec. 4	Dec. 5-11	Dec. 12-18
Parson Brown	Lake Weir	0.41	....	0.35	....	0.50	....	....	2.74	....	2.05	....	3.18	....	....
Ilsworth Early	Windermere	....	0.43	....	0.24	....	0.40	0.36	....	2.51	....	1.52	....	2.35	1.91
Homasassa	Florence Villa	....	0.51	0.49	0.35	0.58	0.51	0.50	....	2.63	2.56	2.00	3.26	2.94	2.67
	Palatka	....	0.40	....	....	0.25	....	....	....	2.44	....	....	1.62	....	....
Jaffa	Palatka	....	....	....	....	....	....	....	....	2.13	....	....	1.74	....	....
Carlton Seedless	Windermere	....	0.42	....	0.30	....	0.41	0.41	....	2.47	....	1.78	....	2.42	2.24
Pineapple	New Smyrna	0.13	....	0.14	....	0.14	....	0.15	1.00	....	1.14	....	1.20	....	0.99
	Palatka	....	0.17	....	....	0.30	....	....	....	1.42	....	....	1.83	....	....
	Florence Villa	....	0.30	0.32	0.35	0.32	0.35	0.41	....	2.00	1.88	2.30	1.95	2.21	1.84
Seedlings	Plant City	0.39	....	....	....	....	0.37	....	2.02	....	....	....	....	2.27	....
	New Smyrna	0.25	....	0.28	....	0.27	....	0.36	1.70	....	2.17	....	1.95	....	2.18
	Lakeland	0.21	....	0.17	....	0.14	....	....	....	1.55	....	1.34	....	0.83	....
	Tampa	....	0.16	....	0.14	....	....	0.27	....	1.00	....	0.88	....	....	1.43
	Ozona	....	0.11	....	0.25	....	....	0.34	....	0.92	....	1.45	....	....	1.91
	Orlando	....	0.32	....	0.25	....	0.41	....	....	1.91	....	1.52	....	2.51	....
	Wauchula	....	0.40	....	0.35	....	....	0.36	....	2.53	....	2.74	....	....	2.15
	Geneva	....	0.44	....	....	0.41	....	0.47	....	....	2.40	....	2.50	....	2.68
Valencia	Florence Villa	0.38	0.44	0.50	0.31	0.46	0.35	0.53	2.46	2.58	2.50	1.95	2.60	2.00	3.04
	Oakland	0.32	0.36	....	....	0.43	....	....	....	2.20	....	....	2.76	....	....
	Windermere	....	0.46	....	0.35	....	....	0.24	....	2.47	....	2.00	....	....	1.41
	Manatee	....	....	0.37	....	0.38	....	0.41	....	....	2.10	....	2.38	....	2.27

In the case of most samples there was a considerable increase in oil content as maturity advanced, but there is a high percentage of oil in the peel of the fruit some time prior to the change in color. This is especially marked in the case of the Valencias. There is a very wide difference in the oil content of the same variety from different localities. From this preliminary investigation it is not possible to determine whether this variation is due to soil and climatic conditions, or to the degree of care which the trees have received. From the appearance of the fruit as received, however, it is believed the latter is the case. Especially in the case of seedlings this difference was marked, and fruit showing by its form and texture that the trees were highly fertilized and well cared for showed a higher oil content. There was a marked drop in oil content in most samples during the two weeks from November 14 to 27. During this period there was an excessive rainfall throughout the entire State.

In some cases no observations are available from the places where the samples were taken, and the records of the nearest observer are given. A decrease in oil content immediately follows a period of rainfall, and that where the rains extended over a longer period, the oil content was retarded in its increase.

EFFECT OF RUST MITE.

It has long been believed that the typical brown coloring of the orange skin known as "russet" following the presence of large numbers of the rust mite, *Eriophyes oleivorous* Ashm., is due to the puncturing of the oil cells. In order to determine if this insect injury decreased the oil yield of the fruit, tests were made on the fruit of the same tree at two stages of maturity. The first test was made on November 26 while the fruit was immature, and the second on January 25 after the oranges had reached full maturity. Each sample consisted of 12 bright and 12 russet fruit.

These results indicate that early in the season there is

PURE FOOD AND DRUG NOTES

In this section will be found all matters of interest contained in FEDERAL AND STATE official reports, etc., relating to perfumes, flavoring extracts, soaps, etc.

No Licenses Needed for Arsenic Insecticides.

Retail dealers of insecticides are exempt from the licensing regulations issued by the United States Food Administration covering the wholesale trade in white arsenic insecticides. The only companies required to obtain licenses are wholesalers and jobbers. This announcement is made to correct the impression of many retail merchants including druggists, retailers of patent medicines and others dealing in small quantities of arsenic, who have flooded C. W. Merrill, head of the Chemical Division of the Food Administration, with applications for licenses.

Acetone Content of Denatured Wood Alcohol.

At the request of the War Department the Internal Revenue Commissioner has decided to reduce the acetone content in the denaturing grade of wood alcohol. Specifications for the acetone content are changed to read: "It must contain not more than 10 grams nor less than 3 grams per 100 c.c. of acetone and other substances estimated as acetone." The change was effective at once.

Mr. Charles A. Rindell, Chicago representative for R. M. Krause, New York, Addison Lithographic Co., Rochester, N. Y., and other firms, was a recent visitor to New York, and reports business very good. His son Harmon is enlisted in the Illinois State Militia, although he is only 17 years of age. The young man is over six feet tall and built in proportion.

Mr. A. E. Miannay, grandson of the late Eugene Miannay, a well known perfumer of the previous generation, has taken over the perfume and flavor business and will conduct it in Elizabeth, N. J., as A. E. Miannay & Co.

The stern looking officer whose sunlit countenance shines here is Lieutenant Dudley F. Lum, graduate of the Fort Sheridan (Ill.) School for Officers. He is a first lieutenant in the 46th Infantry in camp in Kentucky. Prior to his enlistment he visited the trade in Chicago in behalf of George Lueders & Co., New York, and after the war, *Deo Volente*, he will resume this work. Lieut. Lum dropped in to see the editor on a recent visit to New York, and when stood up against a wall faced a 25-mm. rapid fire camera without flinching.

LIEUT. DUDLEY F. LUM.

An event of unique interest early in the new year will be the celebration of their 150th anniversary by the Antoine Chiris interests all over the world. The present head of the house is Mr. Georges Antoine Chiris, of Paris, a great-great-great grandson of the founder.

In the United States the Antoine Chiris Co., 18 Platt Street, of which Mr. Burton T. Bush is president, will observe the occasion in a fitting way. Among the treasures of the American branch is a copy of the first price list, dated August, 1768, presented to Mr. Bush by Mr. Georges Antoine Chiris, who has the only other copy in existence.

The original firm of Antoine Chiris, founded in 1768, has never been changed and has been conducted apart from all the other Chiris interests.

Several years ago Mr. Chiris bought out the old established and well equipped plant of Jeancard Fils, at Cannes, France, to extend the manufacture of synthetic chemical bodies and to enlarge his research work, and started a selling branch under the title "Etablissements Antoine Chiris & Jeancard Fils, Reunis" which has lately been changed to "Compagnie des Produits Chimiques, Aromatiques et Medicinaux." Other works have been built at St. Martin du Var, near Nice, where chlorine products are made.

The annual meeting for the election of officers of the Perfumery, Soap and Extract Assn., of Chicago, was held in Vogelsang's on December 11, and the following officers and executive board were elected for 1918:

Ernest Holman, president (of Holman Soap Co.); T. L. Keough, vice-president (of W. J. Bush & Co., Inc.); M. B. Zimmer, secretary and treasurer (of Fritzsche Brothers); Harry Bartold, chairman, executive board (of George Lueders & Co.); other members of board, F. Z. Woods (of Rockhill & Vietor); W. W. Baldwin (of Baldwin Perf. Co.); John Blocki (of John Blocki & Son); Jas. B. Day (of Jas. B. Day & Co.).

HARRY BARTOLD.

ERNEST HOLMAN.

The annual banquet was held at Vogelsang's on Tuesday, December 18, at which the installation of officers was effected in a manner well in keeping with the times. The usual gay features were omitted, but as there were over 50 members and friends present, and George Briggs, of A. P. Babcock Co., was toastmaster, the affair was bound to be a very enjoyable one. "Tom" Keough was responsible for the arrangements, so it goes without saying that nothing was overlooked.

The chief feature was the presentation to the retiring president, Harry Bartold, of a handsome rock crystal and silver vase as a token of appreciation from all the members.

The Editor regrets that the pressure of his duties at publication time prevented him from attending this annual feast of good spirits, for not even the yearly banquet of any other organization can excel this Chicago aggregation in real fellowship.

Long may they prosper!

Colgate & Co. of New York and Jersey City was indicted by the Grand Jury in the United States Court at Norfolk, Va., December 19, for violation of the Federal laws in refusing to sell its products to dealers who would not agree to sell at the prices fixed by the company. The indictment charges that Colgate & Co. for three years has engaged in unlawful practices in Virginia and elsewhere in the Unted States. It alleges that the defendant through wholesale and retail dealers fixed the price at which all of its products should be sold, and refused to sell to dealers who would not agree to sell at the prices fixed by the company, thus suppressing competition.

Commenting upon the indictment of Colgate & Co. at Norfolk, Sidney M. Colgate said that the Department of Justice had offered the company the alternative of abandoning its "established policy of price protection or being sued by the Government," and that the company chose "to accept suit, feeling compelled in justice to fair dealers everywhere, the public and ourselves to take a definite stand for our mutual well being."

Mr. Colgate said the company had for more than forty years refused to sell its products "to those dealers who were unwilling to sell them at prices suggested by us," and that many other manufacturers have pursued a similar policy.

"It has always been our intention," he added, "and we believe the facts will show that it has been our practice to carry out this policy for the good of all of our customers as well as for the good of the general public.

Dr. F. S. Mason, head of the American branch of Rigaud, the Paris perfume house, is recovering from a severe attack of pneumonia.

Among the firms in Spanish America, and Mexico in particular, named on the Enemy Trading List published October 6, there appear the names of "Lueders & Co." and "George Lueders & Co." The listing of the well-known firm of George Lueders & Co. under the blacklisted concerns in Mexico is, we are informed, unquestionably due to some mistake or misunderstanding. There is no firm named "Lueders & Co." nor "George Lueders & Co." in Mexico. The Mexican branch of George Lueders & Co. was discontinued last April. Of course, George Lueders & Co. here have taken immediate steps to have this mistake corrected, but as the War Board is overburdened with work, it may be some time before the necessary correction can be made.

Louis A. Rosett, vice-president of Florasynth Laboratories, Inc., New York, was married November 1, to Miss Frieda A. Sarasohn. They made a trip of several weeks' duration through the South.

The Ohio courts have upheld the bequest of John Hoge, the wealthy soap manufacturer, who, in a codicil to his will, left New York real estate valued at $1,700,000 to Metropolitan Museum of Art and the Actors' Fund of America. The fund gets $600,000 and the Museum receives the remainder. Mr. Hoge left other property which his heirs will receive.

H. A. Mulick, formerly perfumer for J. S. Kirk & Sons, Chicago, is now perfumer for Peet Bros., Kansas City.

A firm in Hong Kong, China, has informed Consul General Anderson that it desires to establish connections in the United States with the object of exporting essential oils and hides.

Otto Hunter is now perfumer for the Palmolive Co., Milwaukee, Wis. Until recently he was employed in a similar capacity by Peet Bros., Kansas City, Mo.

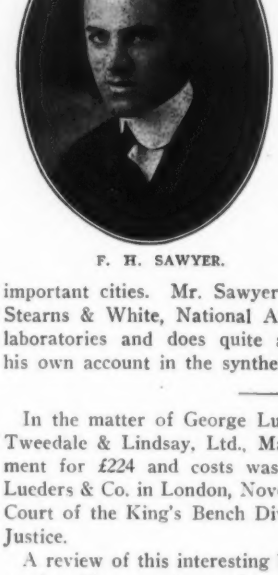
V. Vivaudou, Inc., Paris and New York, has sent to the firm's customers a cheerful and appropriate letter of thanks for favors received during the year now ending.

Chester A. Smeltzer, manager of the vanilla bean department of H. Marquardt & Co., New York, has returned from a lengthy trip to South America.

M. L. Crouch, formerly with the J. B. Williams Co., Glastonbury, Conn., is now superintendent for the Palmolive Co., Milwaukee.

Troy Laundry Machinery Co., Troy, N. Y., has increased its capitalization from $2,000,000 to $3,500,000.

Mr. F. H. Sawyer, whose earnest visage adorns this trade note, has joined the forces of Mr. Joseph De Lorme, manager of the Chicago branch of George V. Gross & Co., the New York essential oil and chemical house. Mr. Sawyer recently returned from a successful trip to the Northwest, taking in St. Paul, Minneapolis, Decorah, Winona, Milwaukee and other cities. Later he left for St. Louis to meet Mr. W. A. Sherry, of the New York office, and from there expected to proceed westward on a tour of important cities. Mr. Sawyer has had experience in the Stearns & White, National Aniline and Ward's chemical laboratories and does quite a bit of experimenting on his own account in the synthetic perfume line.



F. H. SAWYER.

In the matter of George Lueders & Co. against Cooke, Tweedale & Lindsay, Ltd., Manchester, England, a judgment for £224 and costs was given in favor of George Lueders & Co. in London, November 29, in the Commercial Court of the King's Bench Division of the High Court of Justice.

A review of this interesting breach of contract for heliotropin will appear in our January issue.

Charles L. Senior, secretary of Florasynth Laboratories, Inc., 231 Pearl St., New York, has returned from a 2½ months' trip to Cuba and the South, and reports business very good. He will shortly leave for an extended trip through the mid-west.

The trade will be much interested in the announcement of the organization of the Manhattan Can Company, for the purpose of manufacturing decorated and plain metal packages of every description. The company will apply for its charter January 1, and has already installed a modern and up-to-date plant at the Bush Terminal Building No. 10, Brooklyn N. Y.

While the company will manufacture metal packages of all kinds, they will make a specialty of the standard oval talcum powder can, and have equipped the factory with the very latest machinery for this particular package.

While some of the large stockholders of the Talcum Puff Company will own stock in the Manhattan Can Company, it is not in any sense a subsidiary of the Talcum Puff Company, and it will develop its business independently of that concern. The new company's authorized capitalization is $1,000,000. Its first announcement will be found on advertising page 42 of this issue.

The officers will be Jacob Friedman, president; M. V. Moore, vice president; P. E. Page, vice president; B. D. Jacobs, treasurer; C. S. Humphrey, secretary; B. J. Friedman, assistant secretary and treasurer; Emanuel Van Dernoot, counsel.

Mr. Friedman is senior member of the firm of J. Friedman & Company, 708 Broadway, New York. Mr. Jacobs has been his credit manager for many years. Mr. Page will have charge of the sales department.

The practical end of the business and the factory management will be under the direction of C. S. Humphrey, with Herman Bayha as general superintendent, and Charles Gueritey as superintendent of machinery. Mr. Bayha has had long and extensive experience in lithograph work of all kinds, having for a number of years been with the American Stopper Company of Brooklyn; the Metal Package Company of Brooklyn, and lately with the J. L. Clarke Manufacturing Company of Rockford, Ill.

Mr. Gueritey is a designer of automatic machinery and has had years of experience in evolving and looking after machinery for a plant of this kind. He has been connected with the Metal Package Company for the last five years.

"We have been at work on this proposition for about a year," said Mr. Page to the Editor. "In looking over the field, it seemed to us that there was ample room for another can factory, and that it could be developed into an excellent investment. We expect to make a specialty of high grade work and prompt deliveries, and will gradually develop the business for all classes of can manufacturing, including baking powder tins, containers for shoe blacking and polish, packages for liquids, and in fact, cans of every description.

"The Talcum Puff Company alone will sell next year 15,000,000 packages, which in money would represent can purchases of more than $300,000 for the year. A part of this business would form a good nucleus for a successful and growing business. I say 'a part of it,' inasmuch as the purchases of the Talcum Puff Company will continue to be divided among the different can factories as heretofore, as this represents more business than we would care to accept from any one concern.

"We have ample space for our present requirements in the latest building constructed by the Bush Terminal Company, and will so arrange the space that we can for the present expand in the same building, securing additional quarters as they are needed, and assuming that the business is going to grow, the space was arranged with this idea in view, and in addition, we are now considering a proposition from the Bush Terminal Company for the erection of a building to be occupied exclusively by the can company.

"We will be represented in New York by L. A. Wegenaar, 154 Nassau Street; in St. Louis by H. L. Coe, 631 Century Building; in Chicago by H. A. Michel, 1504 North American Building; in New Orleans by E. S. Dudley, 624 Canal Street, and in Toronto by W. P. Luke, 193 Spadina Avenue, and in addition we will have two regular road salesmen.

"The factory is equipped with the very latest machinery obtainable, and we do not believe it can be excelled by any in this particular.

"It is our sincere hope that the company will be able to render a real service to the industry. We will also have a mineral and chemical department, and will deal extensively in non-metallic minerals, including imported and domestic talc, of course."

Mr. A. J. Krank, member of the executive committee of the Barbers' Supply Dealers' Association of America, has opened a new store at 140 East Sixth street, St. Paul, Minn. In addition to barbers' supplies Mr. Krank will carry a line of cutlery and hardware.

McCormick & Co., manufacturers of flavoring extracts, etc., Baltimore, have purchased the Miller warehouse at the foot of Caroline street, which makes the fourth warehouse the company has bought this year. Four ocean-going vessels can dock at one time at the Caroline street pier and there are spurs from the various railroads, all of which will improve the company's facilities greatly. There are 70,000 feet of floor space in the Miller building, which will be remodeled.

Dragon Paper Mfg. Co., 48 West 15th street, New York, announces a special offering of white and yellow Squirrel Brand second sheets.

Max Iserman, assistant general manager of Van Dyk & Co., Inc., has returned to his desk after a severe illness lasting nearly a month. He is in good shape again, and will soon leave on a trip to the Mid-West.

Wm. M. Linnett, Jr., has entered the employ of Pierre Lemoine, Sucs., 128 Water street, New York, as sales manager, and will give special attention to a mail soliciting campaign. Mr. Linnett has had extensive education and training in pharmaceutical, flavor and perfume work, and has studied advertising and selling by mail.

He was chemist and advertising man at G. H. Lowell & Sons, New York; Maltbie Chemical Co., Newark, and similar houses.

Mr. Linnett is preparing several new price lists and circulars for Pierre Lemoine, Sucs., and is organizing a department to co-operate with users of Lemoine raw materials.

The Dominion Soap Co., Ltd., Hamilton, Ont., Can., has been sold to the London Soap Co., Ltd., London, Ont. The plant is now being dismantled and moved to London.

We are advised by Russell & Co., 99-101 Beekman Street, New York, that it has appointed A. C. Drury & Co., 29 West Kinzie Street, Chicago, Ill., as representatives for Chicago and midwest. Russell & Co. is among the younger essential oil houses, and is making very good progress.

Wolmark Chemical Co., New York, has established new offices and stock rooms at 31 West 14th St.

The Peerless Tube Co., of Bloomfield, N. J., has purchased 100 by 120 feet alongside of its present factory, and has begun the erection of an addition to the plant.

Messrs. H. W. Heister and James McKnight of George Lueders & Co.'s sales force dropped in recently. Mr. Heister covers New England and New York City, and Mr. McKnight travels through New York State and part of the States of Pennsylvania and Ohio.

Both report good business for this year and good prospects for next year.

Mr. H. A. Baker, chief chemist of the American Can Co., has gone to Washington to become a member of the Committee on Conservation of Tin Plate. Mr. Baker's long experience, both technical and practical, together with an intimate knowledge of manufacturing, should make him a very desirable member of that committee.

The American Can Company has declared a dividend of 3.7157 per cent on the preferred stock, the same being the final payment on accumulated dividends on the preferred stock. The dividend is payable December 20 to shareholders of record on December 11. The directors also declared a regular quarterly dividend of 1¾ per cent on the preferred, payable January 2 to holders of record December 18.

Mr. Richard Dickey, general manager of Doriot-Lenne, Inc., perfumers, San Francisco, has recovered from a severe operation performed by Major Chichester, a surgeon in the Army. He was confined to bed for several weeks in the Church of St. Matthew Red Cross Hospital, at San Mateo, California. Mr. Dickey says:

"I have read and reread the last issue of the PERFUMER, until I have worn it out; and still I have it on the bed with me now!"

Fitzpatrick Bros., soap manufacturers of Chicago, are putting up a brick factory at 3141 Benson Ave.

The Curtis Bay distillery, at Curtis Bay, Anne Arundel County, Md., which is said to be the largest producer of industrial alcohol in the world, is to be more than doubled in size with the expenditure of several million dollars. Negotiations have been closed by representatives of the United States Industrial Chemical Company for a tract of about fifty acres adjoining the present plant. The tract fronts directly on the Curtis Bay deep water channel with a depth of thirty feet.

An addition is to be made to the mammoth distillery now there, built in 1915 at a cost of $2,000,000, by the Republic Distilling Company, a subsidiary of the United States Industrial Alcohol Company of New York. Since its erection it has been turning out alcohol for use in industrial purposes and the enlargement is due chiefly to the increased demand for alcohol in making munitions of war. The output of the present distillery is 50,000 barrels monthly, made from molasses brought from Cuba by a special line of tank steamers.

The two plants will be operated under the direction of the United States Industrial Chemical Company, which is allied with the United States Industrial Alcohol Company of New York, which built the Curtis Bay Chemical Company plant in 1914 at a cost of $3,000,000 and later added an addition costing $2,000,000. The plant was recently shut down to make changes and additions to enable the manufacture of chemicals, and after spending thousands of dollars the additions and improvements have been completed and practically the entire plant has resumed operation.

Mr. Albert Paso sailed December 14 for Panama, Ecuador, Peru, Bolivia, Chile, Brazil and Argentina. He is traveling for Pierre Lemoine, Sucs., synthetic manufacturers, 128 Water St., New York, and will be gone eight months.

Mr. C. F. Young, of the Davies-Young Soap Co., Dayton, Ohio, is taking an active interest in the World's Salesmanship Congress, which is to be held in that city, beginning June 18, and continuing five days. It is expected that more than 6,000 delegates will be present.

Mr. W. Paul Westfall, of the Scotch-Tone Co., Oklahoma City, Okla., was a recent visitor in New York.

Gloria Rita Gunther is the euphonious name by which the Thanksgiving Day daughter of Mr. and Mrs. Wm. H. Gunther will be known. The proud father of this 3.18 kilogram young lady is secretary of George Schmitt & Co., Inc., the well-known Brooklyn lithographers, and her mother is a daughter of the head of the company.

American Drug Co., 2652 Lawton avenue, St. Louis, has leased the four-story and basement building at 1418-1420 Chestnut street. It manufactures toilet articles and medical remedies.

The Mallinckrodt Chemical Works of St. Louis has just rounded out a half century as an organization, having been formed on December 19, 1867. The annual banquet of the company, always a rather elaborate affair, this year was more elaborate than usual. It was held at one of the leading clubs of St. Louis and 100 persons were present. Addresses were delivered by Edward Mallinckrodt, president of the company, and O. L. Biebinger, secretary, as well as by other officials. A delegation from the East included H. T. Jarrett and A. A. Wasserscheid, of the New York branch of the company; L. P. Goodwin, of Jersey City; G. F. Applin, of Philadelphia, and L. G. Ryan, manager of the Canadian branch.

Sixty-five thousand dollars will be spent immediately in enlarging the plant of the Kaola company in Portland, Oregon, and in adding another story to the factory building on Roosevelt Street. This became known following the arrival in Portland of C. E. Johnson, president of the $4,000,000 Palm Olive Soap Co., of Milwaukee, Wis., which recently bought the Kaola property. Mr. Johnson has been on a visit in Portland.

Northam Warren Corporation, which makes manicure specialties, has leased the building at 114-118 West 17th street, New York, for a term of years at a rental of approximately $150,000. The building contains 45,000 square feet of floor space and $50,000 will be spent by Mr. Warren and the owner in remodeling it, installing the automatic sprinkler system and converting it into a model laboratory and office building. Possession will be given February 1 and the improvements will be made in time to permit its occupancy April 1. Mr. Warren believes he has found an ideal location for his corporation. Starting only four years ago he employs 150 persons, and will pay in a month in the new quarters a larger rental than was paid in an entire year when the company started at 9 West Broadway. The business now is scattered around in three different buildings. Mr. Warren proposes to install the latest automatic machinery and other devices. His plans include rest rooms and all the modern conveniences for his employes.

Mr. Edward Mallinckrodt, president of the Mallinckrodt Chemical Works of St. Louis, was in New York recently on a business trip.

Mr. Charles V. Sparhawk, head of the New York essential oil and chemical house, which bears his name, sends us the following clipping which hits a very large-sized nail squarely on the head:

XXX ! ! Xxxip ! !

"With your permission I would like to lose my temper. Because why? Sit with me, kneecaps to kneecaps—and listen!

"Like you, I am a patron of the Liberal Arts; the Art of Spending Money, the Art of Eating Food, the Art of Purchasing Luxuries for My Children and Bare Necessities for their Parents.

"I read advertisements, and they influence me. It is scandalous the way they influence me. Though ostensibly sophisticated, antithetically, I am susceptible and guileless.

"I read magazine advertisements, newspaper advertisements, printed circulars, circular letters—all and everything. Some day, somebody may have an idea; who knows? Eternal vigilance is the price of all things, except those things that are advertised.

"Other than the Ingersoll Dollar Watch, I am not sure of the prices of three advertised articles in all America, and I want to know 'Why the secrecy?'

"Insouciantly they say 'Only $1 a week!' for this stupendous Book Bargain! What the total cost is they do not say!

"They tell me the Bilkins Motor Car has a maximum of efficiency and a minimum of cussedness; that it is finished in bathroom white and boudoir blue—but never a word about the price!

"I lay it down as a flat and unequivocal statement that an advertisement which does not publish the Price of the article advertised is, in the language of the copy department, 'rotten.'

"All right! I'm interested in what you have to offer! While the mood is with me, while my hand is reaching for the check book, how much is it?

"No, I haven't time to write to Indianapolis and find out how much it costs! Who the devil do you think you are, anyhow?"

Postmaster Patten warns patrons of the postal service that the following countries refuse to admit to their mails articles bearing non-postage "Christmas" stamps or other adhesive charity stamps or labels, unless postage thereon is prepaid, and unless such stamps are affixed to the back, and not to the address side, of the covers:

Austria, Brazil, British East Africa, Uganda, Antigua, Barbados, Bermuda, British North Borneo, Canada, Cayman Islands, Cyprus, Gold Coast, Dominica, Falkland Islands, Gambia, Gibraltar, British Honduras, Guatemala, Union of South Africa, Jamaica, Mauritius and dependencies, Montserrat, Nevis, Norway, Southern Nigeria, Portugal, St. Christopher, St. Lucia, St. Vincent, Seychelles, Sierra Leone, British Somaliland, Trinidad, Turks and Caicos Islands, Virgin Islands (British), Germany, Great Britain, Southern Rhodesia.

Unless the foregoing conditions are complied with, articles bearing non-postage stamps will not be dispatched from this country, but will be returned to the sender, if known; otherwise they will be sent to the Division of Dead Letters. Senders are advised to place their names and addresses on all mail for foreign countries.

The text pages of the AMERICAN PERFUMER AND ESSENTIAL OIL REVIEW do not contain *all* of the news. You must read the advertising pages also to get the full benefit.

NEW PUBLICATIONS, PRICE LISTS, ETC.

MAGNUS, MAYBEE & REYNARD, INC., 257 Pearl street, New York.—We have received this firm's wholesale price list and market reports for December, having special reference to essential oils, vanilla beans, chemicals, olive oils, synthetics, drugs, etc. The market report goes into detail regarding various commodities which are in demand. The price list, as usual, is complete and comprehensive.

STAFFORD ALLEN & SONS, LTD., London, Eng., Ungerer & Co., Pearl street, New York, American representative.—November-December wholesale price list of essential oils, etc., including the Allen specialties, is at hand. The market report is concise and interesting. Information in a special December report is given regarding the new crop of Sicilian bergamot, lemon and orange oils.

CHARLES COOPER & CO., Worth street, New York, send us December price list of chemicals and other products.

TOKALON, INC., New York, London and Paris, sends us its neat and attractive price list of perfumes and toilet articles, replacing all lists prior to November.

ARABOL MFG. CO., 100 William street, New York.—The December announcement of this company contains valuable advice to users of adhesives, who are given information upon the merits of tinnol for those manufacturers who have labels to paste upon tin containers. The company specializes in adhesives, it announces, and will pay particular attention to the individual needs of customers.

NEW INCORPORATIONS.

Madame Lillie, Inc., Manhattan Borough, New York City, to manufacture toilet preparations, $100,000 capital stock, has been incorporated by H. J. Lucke, I. E. Konigsberg, S. M. Baeder, 2 Rector street, New York City.

Gimonet De Paris, Inc., Manhattan Borough, New York City, perfumes, toilet articles, $500, has been incorporated by Milton Munter, Philip Munter, Augustus H. Bergmann.

Pitt Soap & Chemical Co., Ltd., Wells, Maine, has been

incorporated to manufacture and sell soaps, washing compounds, disinfectants, lumbering, real estate, hotel, agricultural, mechanical, contracting, etc., with capital stock of $50,000.

H. O. Hurley Co., Louisville, Ky., to make and deal in drugs and toilet articles, has been incorporated by H. O. Hurley, W. B. Hurley, Ed E. Rowland and J. L. Carter, with authoriezd capital stock of $100,000.

Domestic-Commercial Chemical Co., Memphis, Tenn., to manufacture toilet articles, etc., $15,000 capital stock, has been incorporated by R. H. Stickley, W. C. Pryor, N. N. Thompson, S. D. Tucker, J. Monroe Williamson.

Shavelight Corp., Manhattan Borough, New York City, illuminated razors, $10,000 capital stock, has been incorporated by F. J. Kent, C. G. Campbell, S. S. Newton, 73 Cortlandt street.

H. C. Leyden Co., Inc., Syracuse, N. Y., to manufacture dental supplies and equipment, $25,000 capital stock, has been incorporated by J. A. Norton, 182 Ronineau road, Syracuse; F. J. Starr, Montauk avenue, Bayside, L. I.; E. Leyden, 1450 South State street, Syracuse.

North American Beverage Co., $2,000,000 capital stock, has been incorporated in Delaware by F. D. Buck, M. L. Herty and K. E. Longfield, of Wilmington.

American Potash Co., Chicago, capital stock $13,500, has been incorporated by Frank P. A. Navigato, Frank P. Zaleski and Charles G. Hoffman.

Young Bros. Soap Co., St. Louis, Mo., has been incorporated in Delaware with $100,000 capital stock, the incorporators being Wilmington men.

Church & Co., Inc., Manhattan Borough, New York City, to make disinfectants, harness oil and soap, $2,000 capital stock, has been incorporated by Rosella S. Church, Mary R. Francis and Elizabeth C. Dwyer.

Puritan Manicure Case Co., Manhattan Borough, New York City, $10,000 capital stock, has been incorporated by H. O. Dummer, I. J. Nichols and T. A. Clement, 115 Broadway.

Park Gilmore, Inc., Covington, Ky., maker of toilet articles, has been incorporated by Park Gilmore and others.

S. B. Trading Co., Inc., Manhattan Borough, New York City, to manufacture cans and other utensils of tin and tin plates, etc.; $50,000 capital stock, has been incorporated by C. Frank and S. Frank, 132 West 121st street, and M. Schenkman, 27 Cedar street, New York City.

Imperial Metal Mfg. Corp., Queens Borough, New York City, to make sprinkler bottle tops, $175,000 capital stock, has been incorporated by C. Bomeisler, S. Messner, O. Sondhelm Long Island City.

Ricardo Gomez & Dietlin Co., Manhattan Borough, New York City, importing and exporting, $50,000 capital stock, has been incorporated by G. F. Handel, J. E. De Redon and F. X. Dietlin, 165 Nagle avenue.

Diamantine Chemical Co., Monessen, Pa., to manufacture tonics for face, teeth, gums, etc.; $100,000 capital stock, has been incorporated in Delaware by George Stefanides, Peter Lucarakis, Monessen, Pa., and M. J. Dain, Pittsburg.

Anchor Products Co., Inc., Manhattan Borough, New York City, starch, molasses, sugar, soap, $1,000 capital stock, has been incorporated by Frederick W. Bergstein, Vinton V. Bolster and Lawrence W. Murray.

The Wink-O Products Co., of Dunbar, W. Va., to manufacture all kinds of toilet articles, capital stock $5,000, has been incorporated by U. G. Fletcher, Selon Fletcher, of Charleston; New Winkler and C. L. Winkler, of St. Albans, and Frank G. Fletcher, of Dunbar.

IN MEMORIAM FOR DEPARTED FRIENDS.

ALLEN, EDWARD RANSOME, chairman of Stafford Allen & Sons, Ltd., London, Eng., December, 1916.

BRAYSHAW, ABRAHAM, of the Mexican Amole Soap Co., Peoria, Ill., December, 1911.

CRAGIN, CHARLES I., once head of the Dobbins Soap Company, Philadelphia, December, 1915.

CURTIUS, T. M., drug broker, New York, December, 1911.

DOHME, LOUIS, Sharp & Dohme, December, 1910.

FRENCH, HASTINGS L., secretary of the Procter & Gamble Co., Cincinnati, O., December, 1914.

FRITZSCHE, ERNEST T., senior member of Schimmel & Co., essential oils and chemicals, Leipzig, December, 1916.

FULLER, FRANK R., vice-president of the Fuller-Morrison Company, Chicago, December, 1915.

GAUNT, JAMES, American representative of A. & F. Pears, of London, in New York, December, 1916.

HALL, JOHN, father of George Hall, of the United Perfume Co., Boston, Mass., December, 1909.

HEMPSTEAD, WILLIAM S., soaps, New London, Conn., December, 1907.

HINCHMAN, CHARLES C., Michigan Drug Co., Detroit, Mich., December, 1908.

HORNER, MAJOR JAMES BROWN, essential oils, New York City, December, 1914.

HOTCHKISS, CALVIN, son of the president of the H. G. H. Essential Oil Co., Lyons, N. Y., December, 1911.

KEMP, COL. HORACE G., of L. H. Kemp & Son, soap manufacturers, Cambridge, Mass., December, 1914.

LAMME, MAXWELL V., of the Coffin-Redington Co., San Francisco, Cal., December, 1913.

MASSEY, WILLIAM MORTON, one of the founders of the Caswell-Massey Company, New York, December, 1915.

MCCLUNE, HARRY S., salesman for W. & H. Walker, soaps, Pittsburgh, Pa., December, 1910.

MERRELL, GEORGE, president of the William S. Merrell Chemical Co., of Cincinnati, O., December, 1915.

RAMSDELL, CLIFFORD, of Daggett & Ramsdell, New York City, December, 1911.

ROBINSON, FREDERICK A., soap manufacturer, Malden, Mass., December, 1907.

ROCKHILL, WILLIAM WOODVILLE, former United States Ambassador, cousin of Clayton Rockhill, of Rockhill & Vietor, New York, December, 1914.

TERRISSE, JULES, one of the founders of Chuit, Naef & Co., now M. Naef & Co., essential oils, Geneva, Switzerland, December, 1916.

THOMAS, CHARLES, director of Christopher Thomas Bros., soaps, Bristol, Eng., December, 1909.

WEISZ, CHARLES, drug broker, previously with McKesson & Robbins, New York City, December, 1912.

WRIGLEY, WILLIAM, of the Wrigley Manufacturing Co., soaps, Philadelphia, Pa., December, 1909.

Obituary Notes.

Charles Holzhauer, president of the American Pharmaceutical Association, died suddenly at his home in Newark, N. J., November 19. He was born in Cassel, Germany, in 1848, came to America when very young and started his successful life as pharmacist by becoming an errand boy in a Newark drug store in 1862. He belonged to numerous associations, was prominent in the civic and financial life of New Jersey and had a genial personality. His wife and one son survive.

Jacob G. Schaeffer, president of Schaeffer, Bros. & Powell Manufacturing Co., soaps and candles, St. Louis, Mo., died November 13. He was born in St. Louis in 1848, being the son of Nicholas Schaeffer, who established one of the first soap factories west of the Mississippi River. The younger Mr. Schaeffer entered the business in 1870 and invented an oil soap which has been in use in the army for many years. Before going into the firm his American education was supplemented with courses in German and French institutions. He was a graduate of St. Louis University. His wife and a daughter survive.

Aaron B. Calisher.

In the death of Aaron B. Calisher the perfumers of the United States have lost a valuable servant. Aside from his sterling qualities of heart and mind, there was strong in him an eager willingness to put aside his personal and business affairs whenever the demands of the industry, as voiced through the Manufacturing Perfumers' Association, called to him.

AARON B. CALISHER.

During the past year this proved an especially onerous burden through the fact that in the death of a brother, Nathan Calisher, in 1916, he was compelled to give much of his attention to the financial management of Calisher & Co., and Oakley & Co., as well as to operate the laboratory and factory.

On Monday evening, December 10, shortly after dinner he complained of feeling ill, and within half an hour expired. The cause was myocarditis.

Mr. Calisher was born in Richmond, Va., in April, 1858, and leaves a widow and daughter. He was a member of Perfect Ashlar Lodge, F. & A. M., and Wendell Phillips Lodge, K. of P.

Masonic services were held at his late residence, 562 W. 148th St., New York, on Tuesday evening, December 11, and religious services, attended by over 24 friends from the trade, the following afternoon. Many beautiful floral tributes were sent including those from the Mfg. Perf. Assn., Aroma Club, etc. Interment was made on December 13, at Bayside Cemetery, Brooklyn, N. Y.

The following sentiment from the pen of Walter Mueller, manager of the perfume department of A. A. Vantine & Co., and secretary of the association, expresses what many must feel.

A TRIBUTE.

Through the death of Aaron B. Calisher, The Manufacturing Perfumers' Association of the United States has lost one of its ablest and most hard-working members, one to whom the Association, as well as the entire perfume industry, is under a lasting debt for services rendered.

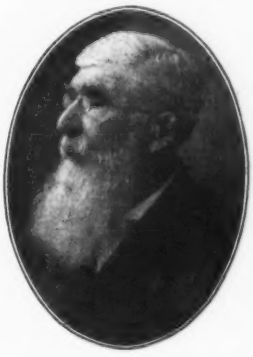
As keenly as his passing is realized now, this realization will grow stronger as time passes and his wise counsel, his progressive spirit, his comprehensive grasp of affairs, and his unerring faculty of arriving at a solution of the many problems that confront the Association is missed.

He had an unusually sensitive appreciation of the responsibilities of membership in the Association. Despite the unusually heavy demands made upon him by his business, demands that were particularly exacting during the last year of his life, he never hesitated to assume, cheerfully and willingly, the added burdens placed upon him by his interest in the Association's welfare. In doing so he established a standard that should make his memory a vital and permanent factor in the Association's progress.

WALTER MUELLER.

John Alexander, 62 Years with Woodworth.

Woodworth, Perfumer, New York and Rochester, N. Y., announces the death on November 25 of John Alexander, for 62 years connected with the Rochester branch of the firm. On looking up the record, it was found that the original entry made in the first sales book of the old C. B. Woodworth Company was penned by Mr. Alexander. It was dated September 24, 1854, amount of sales being $1.02. From that day until September 17 of this year he attended to his duties without interruption through illness or any other cause. He belonged to the old school which did not relish holidays and found no real necessity for them. Mr. Alexander was in his 90th year, having been born in England on June 27, 1828. He was in Free Masonry for 54 years and was secretary of his Royal Arch Chapter for half a century. He was also in the Mystic Shrine and the Consistory. Monroe Commandery, K. T., furnished a guard of honor, and his body rested in state in the Rochester Masonic Temple. He leaves five children, 13 grandchildren and 10 great grand children.



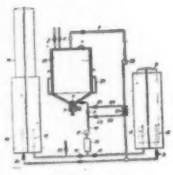
JOHN ALEXANDER.

Albert L. Johnson.

Albert L. Johnson, vice-president of the Oriental house of A. A. Vantine & Co., Inc., died of heart failure on November 24 while on his way to his home in East Orange, New Jersey. He was born in Cumberland, Maryland, on June 8, 1866. His family's fortune having been swept away by the Civil War, he entered business life at an early age, becoming associated with J. C. Orrick & Son Company, one of the leading firms in his home town. His ability speedily won him promotion and eventually made him vice-president and general manager of the firm. An attack of nervous prostration, caused by overwork, necessitated his retirement from active business life for several years, after which he came to New York, becoming engaged with several well-known financial and industrial concerns, and eventually with A. A. Vantine & Co., Inc.

Mr. Johnson was possessed of remarkable initiative, rare administrative ability, and untiring energy, coupled with an unusual faculty for developing these qualities in others. His keen, analytical mind and sound, shrewd judgment of men and affairs made him a dominating figure in business circles. While of a modest and retiring nature and essentially devoted to the pleasures of the home, his charm of manner and innately friendly and helpful disposition made him a host of friends, to whom his passing means a genuine personal loss.

PATENTS AND TRADE MARKS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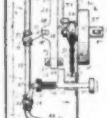
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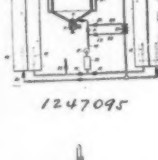
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MONARCH
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105681

DANDR-OL
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Lady Clementine
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106272

BOURJOIS
106308

Y-Not
106727

MOLLÉ
105604

CHA MING
106940

A. L. Shepard
106761

104406

KAROTONE
106311

Williams
106729

Fir-morr
106968

Silver Lake
106151

108986

NOTE TO READERS.

This department is conducted under the general supervision of a very competent patent and trade mark attorney. This report of patents, trade marks, labels and designs is compiled from the official records of the Patent Office in Washington, D. C. We include everything relating to the four co-ordinate branches of the essential oil industry, viz.: Perfumes, Soap, Flavoring Extracts and Toilet Preparations.

The trade marks illustrated are described under the heading "Trade Mark Registrations Applied for," and are those for which registration has been provisionally granted.

All inquiries relating to patents, trade marks, labels, copyrights, etc., should be addressed to

PATENT AND TRADE MARK DEPT.,
Perfumer Pub. Co. 80 Maiden Lane, New York.

PATENTS GRANTED.

1,246,916. SOAP-DISPENSER. William F. Hatch, Milwaukee, Wis., assignor to B. J. Johnson Soap Co., Milwaukee, Wis., a corporation of Wisconsin. Filed December 17, 1915. Serial No. 67,309. (Cl. 221—110.)

1. A fluid dispenser, comprising a source of fluid supply, a fluid measuring means connected to said source of supply, means for controlling the flow of the fluid into the measuring means, a normally closed valve controlling the discharge of fluid from the measuring means, and a manually operable means for opening the last mentioned valve and for preventing the opening of both valves at the same time.

1,247,095. PROCESS AND APPARATUS FOR TREATING OILY MATERIAL. Carleton Ellis, Montclair, N. J. Filed May 2, 1917. Serial No. 165,974. (Cl. 87—12.)

1. In an apparatus for hydrogenating oily material and the like, the combination of a plurality of gas holders, means for passing the gas back and forth from any one of said holders to another, and for passing the same through a receptacle containing the oily material in the presence of catalyzer intermediate such holders, valves in the connecting pipes for directing the flow of the gas, and means for causing a flow of gas from one of such holders, through said receptacle into any of such gas holders.

1,247,597. PROCESS FOR THE EXTRACTION OF COCOANUT-OILS. George G. Turner, New York, and Clinton H. Leighton, Brooklyn, N. Y. Filed April 21, 1917. Serial No. 163,691. (Cl. 87—6.)

1. A process of obtaining cocoanut oil from copra and like material which comprises (*a*) comminuting the same, (*b*) soaking in hot salt water having a salt content of not less than about 3 per cent.., until the said oil is entirely released from the non-oily material, while agitating said material with the water, (*c*) allowing sedimentation, (*d*) passing the oil with a part at least of the other material through a centrifugal specific gravity separator, and (*e*) finally clarifying the oil.

1,247,600. COLLAPSIBLE-TUBE HOLDER. Emerson Bard Priddy, Chicago, Ill. Filed April 19, 1916. Serial No. 92,104. (Cl. 248—20.)

1. A collapsible tube holder comprising two parallel adjacent plate portions provided with spring means for pressing them toward each other, one of said plate portions constituting a supporting element and the other a sealing element, said supporting element projecting beyong the sealing element and having an open-ended slot in its projecting portion adapted to receive a collapsible

tube, the said supporting element being arranged to be drawn away from the sealing element by engagement of a collapsible tube in said slot, whereby the tube may be slid along the slot into position to have its discharge orifice sealed by the sealing element.

1,248,402. Soap and Candle and Improved Process of Making the Same. Balthasar E. Reuter, Chicago, Ill. Filed April 9, 1914. Serial No. 830,589. (Cl. 87—4.)

1. The process of producing fatty acids which consists in successively applying to the fats or oils under treatment fractional portions of the total quantity of the saponifier employed, excluding air from contact with the material undergoing saponification and removing the "ribbon of impurity," intermediate successive applications of the saponifier.

1,249,278. Treating Oils. Carleton Ellis, Montclair, N. J., assignor to Ellis-Foster Company, a corporation of New Jersey. Filed April 29, 1913. Serial No. 764,323. (Cl. 196—26.)

2. The process of making gasolene-like material which comprises passing the vapors of an old containing essentially petroleum products heavier than gasolene through a zone of progressively increasing temperature maintained at or above the decomposing temperature and in thereafter subjecting the products of such decomposition to a progressively decreasing temperature without substantial and material condensation until equilibrium of the unstable components of such products is established.

DESIGN PATENTED.

51,534. Cake of Soap. Philip K. Williams, Glastonbury, Conn., assignor to The J. B. Williams Company, Glastonbury, Conn., a corporation of Connecticut. Filed October 11, 1917. Serial No. 196,081. Term of patent 14 years. The ornamental designs for a cake of soap as shown.

TRADE-MARK REGISTRATIONS GRANTED.

119,419.—Certain Named Foods.—Albers Bros. Milling Co., San Francisco, Cal. Filed July 19, 1916. Serial No. 96,659. Published September 4, 1917.

119,455.—Certain Named Foods.—Alfred Jones' Sons, Bangor, Me. Filed February 23, 1917. Serial No. 101,604. Published September 11, 1917.

119,470.—Certain Named Foods.—Sam Ruttenberg, Chicago, Ill. Filed March 16, 1917. Serial No. 102,202. Published August 28, 1917.

119,497.—Face-Powder, Toilet Waters, Rouge, Lip-Sticks, Perfumes, Eyebrow-Pencils, and Pomades.—A. Bourjois & Co., Inc., New York, N. Y. Filed May 18, 1917. Serial No. 103,916. Published September 25, 1917.

119,498.—Face-Powder and Rouge.—A. Bourjois & Co., Inc., New York, N. Y. Filed May 18, 1917. Serial No. 103,020. Published September 25, 1917.

119,499.—Face-Powder.—A. Bourjois & Co., Inc., New York, N. Y. Filed May 18, 1917. Serial No. 103,922. Published September 25, 1917.

119,509.—Soaps.—Colgate & Co., Jersey City, N. J., and New York, N. Y. Filed June 1, 1917. Serial No. 104,176. Published August 21, 1917.

119,523.—Certain Named Chemicals, Medicines, and Pharmaceutical Preparations.—Boris Fonstein, Chicago, Ill. Filed May 14, 1917. Serial No. 103,771. Published September 18, 1917.

119,568.—Certain Named Pharmaceutical Preparations.—Puritan Pharmaceutical Co., St. Louis, Mo. Filed June 5, 1917. Serial No. 104,288. Published September 18, 1917.

119,570.—Hair-Tonics.—Carrie M. Reider, Cincinnati, Ohio. Filed June 9, 1917. Serial No. 104,363. Published September 25, 1917.

119,571.—Certain Named Pharmaceutical Preparations.—The Remiller Co., New York, N. Y. Filed July 10, 1917. Serial No. 104,966. Published September 18, 1917.

119,587.—Certain Named Chemical and Pharmaceutical Preparations.—Union Pacific Tea Company, New York, N. Y. Filed February 4, 1916. Serial No. 92,640. Published May 8, 1917.

119,593.—Powder-Paper.—Waldes & Co., Prague-Wrschowitz, Austria-Hungary, assignors, by mesne assignments, to Waldes & Company of New Jersey, a corporation of New Jersey. Filed November 22, 1916. Serial No. 99,495. Published September 18, 1917.

TRADE-MARK REGISTRATIONS APPLIED FOR.

97,663.—Fischbeck Soap Co., San Francisco, Cal. (Filed August 28, 1916. Used since October 28, 1895.)—Soaps.

103,132.—The Terbets and Garland Store, Chicago, Ill. (Filed April 19, 1917. Used since September 1, 1914.)—Olive oil.

104,406.—Michael Earls, New York, N. Y. (Filed June 12, 1917. Used since June 6, 1917.—A hair tonic.

105,604.—William Winfield Simpson, New Brighton, Pa. (Filed August 11, 1917. Used since June 1, 1917.)—Toilet preparations, viz.: a shaving-balm.

105,681.—The Madam C. J. Walker Mfg. Co. Indianapolis, Ind. (Filed August 15, 1917. Used since June 16, 1917.)—A hair tonic.

105,986.—Gloria Olive Oil Co., New York, N. Y. (Filed August 31, 1917. Used since February 1, 1917.)—Olive oil.

106,151.—The Baldwin Perfumery Co., Chicago, Ill. (Filed September 10, 1917. Used since October, 1898.)—Perfume, toilet water, sachet, face powder, face cream, smelling salts, and liquid face powder.

106,272.—A Bourjois & Co., Inc., New York, N. Y. (Filed September 17, 1917. Used since June 27, 1917.)—Toilet soap.

106,308.—A. Bourjois & Co., Inc., New York, N. Y. (Filed September 19, 1917. Under ten year proviso. Used since 1860.)—Toilet preparations, as follows: Face powder, toilet powder, sachet powder, rice powder, talcum powder, toilet waters, perfumes; used either pure or as an ingredient in toilet preparations in admixtures with suitable substances in the form of pastes, salves, soaps, powders, pencils, and liquids; rouges (liquid, powder, and compact); pomades, pomade sticks, hair wax, eyebrow pencils, nail enamels, nail polishes, nail acids, nail powders, lip sticks, lip pomades, hair dressing, hair oil, hair pomades, hair dyes and bleaches, cologne, perfumed toilet extracts, brilliantine, face-cream, toilet cream, mouth washes.

106,311.—Nicholas Carola, New York, N. Y. (Filed September 19, 1917. Used since Jan. 1, 1906.)—Hair tonic, face powder rolling cream, vanishing cream, cold cream, and pine tar shampoo.

106,324.—The R. H. Laird Co., New York, N. Y. (Filed September 19, 1917. Used since July, 1917.)—Hair tonic, hair and scalp cerate, tar shampoo and antiseptic and germicidal lotion for the hair.

106,727.—William Thomas Trautwein, New York, N. Y. (Filed Oct. 11, 1917. Used since October 1, 1917.)—A scalp tonic.

106,729.—The J. B. Williams Co., Glastonbury, Conn. (Filed October 11, 1917. Under ten-year proviso. Used since the year 1891.)—Preparations for cleaning the teeth.

106,761.—Anna M. Shepard, Brooklyn, N. Y. (Filed October 13, 1917. Used since January 1, 1917.)—A hair restorer in liquid or paste form; also used as a scalp massage.

106,940.—Colgate & Co., Jersey City, N. J., and New York, N. Y. (Filed October 25, 1917. Used since October 1, 1917.)—Liquid and powdered perfumes, toilet waters, toilet creams, face and toilet powders and sachets.

106,968.—Alberta E. Fields, Pasadena, Cal. (Filed October 26, 1917. Used since October 10, 1917.)—Hair tonics.

ARGENTINE AND CHILEAN CHANGES.

Information has been received from the Argentine law firm of Obligado & Co. to the effect that publication of applications for trade-mark registration, amendment, or cancellation in Argentina will hereafter be at the expense of the applicant. A charge of 12 pesos paper, or $5.09, will be made for the publication of notices the required number of times. From the same source it is learned that the Chilean tax on patents has been doubled. This is probably by virtue of the law of September 2, 1917, doubling all stamp taxes.

FOREIGN CORRESPONDENCE AND MARKET REPORT

AUSTRALIA.

EMBARGO.—Ernest T. Hall, official representative in New York, announces that the following articles have been placed on the embargo list by the Australian Government: Crown seals, tin or other metal toys, powders of all kinds, soaps (except liquid soaps), spices, dry pharmaceutical preparations, linoleum polishes, metal polishes. Any of the above goods, will be admitted, however, for which a firm order was placed with the manufacturer before Nov. 10 and which were in course of manufacture on that date and for which the importer is committed to payment.

CANADA.

EMBARGO.—The exportation of food products, feeding stuffs, fertilizers, and certain other articles of necessity to countries other than the United Kingdom, British possessions and protectorates was placed under strict control by a Canadian order in council of November 15. The prohibition upon shipments of such goods is to be modified by licenses issued by the Minister of Customs, under regulations framed by the Food Controller of Canada, in favor of countries in alliance with the British Empire and having armies in the European field. The articles named in the list are as follows: Animal fats, butter, castor oil, castor beans, cocoanut, cod liver oil, cottonseed oil, potassium salts, potash, chlorate of potash, ammonia and ammonia salts, glycerin, grease of animal or vegetable origin, lard, lard compound, linseed oil, peanut oil, peanut butter, rapeseed oil, tallow, tallow candles, stearic acid, rapeseed oil, neat's-foot oil; oil cake, oil-meal cake, peanut butter, peanut oil, soap, soap powder, stearine, stearine acid, stearine acid candles, sulphurated castor oil, tallow, tallow candles, vegetable oils.

FRANCE.

FRENCH FLOWER HARVESTS.—The jasmin crop in the South of France, which was completely harvested by the end of September, is not a particularly good one. Climatic conditions have all along been unfavorable while the plants were growing, and many of the plants did not commence to bloom till late in August. The result was a very high price for the flowers, which reached as much as 3 francs per kilo. The scarcity of fine fats and oils has of necessity limited the output of the pomade, many of the flowers having to be used for the manufacture of concretes by an exhaustive process in which volatile solvents were employed. The tutesore crop was a bad one, owing to a disease which developed in the plants. The perfume products are, of course, correspondingly dear.

DEMAND FOR AMERICAN GOODS.—Consul General A. M. Thackara at Paris says: "During the present war the demand for American goods in France will be principally for articles of national necessity, but after the conclusion of hostilities there should be opportunities for the sale of a great variety of commodities. The report of the American Industrial Commission to France to the American Manufacturers' Export Association is a remarkably complete and up-to-date survey of France's present wants and

(*Continued on page* 310.)

THE MARKET.

Essential Oils, Aromatic Chemicals, Etc.

A comparatively heavy business has been moving in a good many of the more important essential oils in view of the expectation for a slowing down incident to the approach of the inventory taking period. With the exception of the Messina essences, which are slightly lower, due to the fact that consumption has apparently been cut at a time when reports from abroad indicate a comparatively large output, the general tone of the market is strong. In the case of lemon oil the market is rather easy; beragmot has been subjected to some price shading, but the consensus seems to be that higher prices will be in evidence immediately after the turn of the year.

As is well known there has been no betterment in the transportation situation insofar as the movement of goods from the Far East is concerned. This has created a much stronger sentiment among holders of oil of cassias with advances of 5 to 10 cents over previous levels recorded. Prices of sandalwood oil have also been in the ascendency with the East Indian $1.50 higher and the West Indian about 25 to 50 cents higher. The scarcity in oil of cloves has been relieved to an extent by additional arrivals of the spice and as the oil content is about 17 per cent., prices have eased in proportion to the raw material. Waning demand for citronella oil has also led to some price shading on this essence. Whatever easement there was in other Far Eastern essential oils was made up by the stronger position which developed on nutmegs and mace, both of the latter having been advanced from 40 to 50 cents a pound.

As regards domestic essences there has been a slightly easier tone in the market for oil of peppermint, with offerings of the redistilled variety down to $3.70 a pound. Reports from the West were that some holders were offering more freely in view of the fact that the shortage of sugar had curtailed candy production, which was in turn making for a restricted demand for peppermint and spearmint oils. Oil of spruce remains at the high level of $1.25 a pound. Safrol has eased to 40 @ 45 cents on freer arrivals of Mexican saffron.

In the general list of synthetic products and aromatic perfumery materials, interest has centered in the rising costs of raw materials, such as phenol and toluol. There was an advance in the asking quotations for methyl salicylate to a basis of 95 cents a pound. Coumarin became extremely scarce with holders demanding from $23.50 to $25 a pound as to quantity.

While some easing off took place in cologne spirits alcohol, the situation in distilled spirits was regarded as critical since it was said that the Government might see fit to commandeer all distilled spirits to facilitate the manufacture of munitions.

Vanilla Beans.

Trading in the vanilla bean market has ruled comparatively quiet the past month. There is no noteworthy alteration in prices for any description, barring the fact that the market on Bourbon varieties has been soft in spots. The trade as a whole are anticipating a quiet period between now and February-March when the new crop of Mexican cut beans begin to make their appearance on the market. Mexican whole beans will not begin to arrive until next June, so the trade are reconciled to making up deficits in supplies by Bourbons or South American beans.

So far as primary market conditions are concerned there is no material change. Exchange on Mexico is ruling

(*Continued on page* 310.)

PRICES IN THE NEW YORK MARKET

(Quotations on this page are those made by local dealers, but are subject to revision without notice because of the unstable conditions created by the European War)

(See last page of Soap Section for Prices on Soap Materials.)

ESSENTIAL OILS.

Almond Bitter....per lb...	$12.50-13.50
" F. P. A.....	12.75-14.00
" Artificial	5.00-5.50
" Sweet True	.95-1.00
" Peach-Kernel ...	.32-.35
Amber, Crude.....	nominal
" Rectified	1.65-1.75
Anise	1.05-1.10
" Lead free	1.15-1.25
Aspic (Spike)	.80-1.40
Bay, Porto Rico.....	2.40
Bergamot, 35-36%.....	6.00-6.25
Birch (Sweet)	2.30-2.50
Bois de Rose, Femelle....	4.25-4.75
Cade	1.00-1.15
Cajeput	.75-.85
Calamus	3.50- —
Camphor, Japanese, "white"	.16-.20
Caraway Seed.....	8.50-9.00
Cardamom	27.50
Carvol	15.00
Cassia, 75-80% Technical..	1.55-1.60
" Lead Free	1.60-1.70
" Redistilled	2.05-2.25
Cedar Leaf	1.10-1.25
" Wood	.18-.20
Celery	20.00-22.00
Cinnamon, Ceylon	22.00
Citronella, Ceylon	.54-.55
" Java	.80-.85
Cloves, Zanzibar	3.75-3.80
" Bourbon	4.00-4.10
Copaiba	.90-1.00
Coriander	18.00-22.00
Croton	1.35
Cubebs	7.00-7.25
Erigeron	1.75-2.00
Eucalyptus, Australian, 70%	.60-.65
Fennel, Sweet	3.75-4.00
Geranium, African	5.50-6.00
" Bourbon	5.25-5.50
" Turkish (palma rosa)	4.25- —
Ginger	8.00-8.25
Gingergrass	2.15
Guaiac (Wood)	6.00
Hemlock	1.20-1.35
Juniper Berries, Rectified..	15.00-16.00
Kananga, Java	5.15-5.30
" " Rectified ..	5.65-5.80
Lavender, English	25.00
" Fleurs	5.65
" Spanish	1.00
Lemon	1.10-1.15
Lemongrass	1.35-1.45
Limes, distilled	2.50- —
" expressed	6.00- —
Linaloe	4.25- —
Mace, distilled	2.30-2.50
Mustard, genuine	nominal
" artificial	20.00
Neroli, petale.....	60.00-90.00
" artificial	18.00-24.00
Nutmeg	2.25-2.35
Opoponax	16.00
Orange, bitter	2.50
Orange, sweet, Italian	2.75-3.00
" sweet, W't Indian.	2.00-2.25
Origanum	$ .32-.35
Orris Root, concrete, foreign .....(oz.)	5.15-5.25
Orris Root, concrete, domestic .....(oz.)	4.50-5.00
Orris Root, absolute..(oz.)	40.00-45.00
Parsley	8.00
Patchouly, foreign	26.00- —
" domestic	nominal
Pennyroyal, American	1.65-1.75
" French	1.25-1.50
Peppermint	3.50-3.65
" redistilled	3.70-3.85
" twice rectified..	4.00-4.15
Petit Grain, South Ameri'n	3.50-3.75
" " French	6.50-8.00
Pimento	3.00-3.25
Pine Needles, from Pinus Sylvestus	2.25- —
Rose, Bulgarian .....(oz.)	25.00-28.00
" French	25.00
Rosemary, French	.85-.95
" Spanish	.67½-.85
Rue	4.00-4.50
Sage	4.25
Safrol	.40-.45
Sandalwood, East India...	13.50-14.00
" West India..	10.75-11.00
Sassafras, artificial	.28-.30
" natural	1.30-1.50
Savin	6.00-6.50
Snake Root	8.50-9.00
Spearmint	3.65-3.80
Spruce	1.25- —
Tansy	3.50- —
Thyme, French, red.....	1.45-1.70
" " white ...	1.60-2.00
" Spanish, red	1.65-1.70
Vetivert, Bourbon	12.00-14.00
Wintergreen, (genuine gaultheria)	4.00-4.50
Wormseed	8.75-9.00
Wormwood	4.25-4.50
Ylang-Ylang, Bourbon	10.00-15.00
" " Manila	26.00-32.00

AROMATIC CHEMICALS.

Acetophenone	nominal
Amyl Salicylate, domestic.	2.75-3.00
" " foreign .	7.00-8.00
Anethol	2.50-2.75
Anisic Aldehyde	6.40-6.75
Benzaldehyde, Domestic...	4.25- —
" F. F. C., domestic..	5.00-5.50
Benzyl Acetate, domestic..	5.50-6.50
" " foreign ..	nominal
" Alcohol	nominal
" Benzoate	10.00-11.00
Borneol	4.00
Bornylacetate	4.50
Bromostyrol	nominal
Cinnamic Acid	nominal
" Alcohol	nominal
" Aldehyde	3.65- —
Citral	3.25-3.40
" C. P.	3.25-3.40
Citronellol, domestic	nom.-20.00
" foreign .....24.00- —	
Cumarin, natural	nominal
" artificial, domestic	23.00-23.50
" artificial, foreign .	25.00- —
Diphenylmethane	nominal
Diphenyloxide	4.75-5.00
Ethyl Cinnamate	nominal
Eucalyptol	1.35-1.50
Heliotropine, domestic	5.75-6.25
Eugenol	5.00-5.25
Geraniol, domestic	5.50- —
" foreign	8.00-9.00
" from palma rosa	5.50-6.00
Geranyl Acetate	7.75-8.00
" foreign	nominal
Indol, C. P.....(oz.)	nominal
Iso-Butyl-Salicylate	nominal
Iso-Eugenol	8.50
Linallol, from bois de rose,	6.00-7.00
Linalyl Acetate	12.00
" Benzoate	nominal
Methyl Anthranilate	nom.-65.00
" Cinnamate	7.25
" Heptenone	10.00-12.00
" Heptine Carbonate.	nominal
" Paracresol	16.00
" Salicylate	.95
Mirbane, rect. drums	.21-.22
Musk Ambrette	75.00
" Ketone	50.00
" Xylene	25.00
Nonylic Alcohol	nominal
Phenylacetaldehyde	70.00
Pheneylethylic Alcohol....	45.00
Phenylacetic Acid.....	nominal
Rhodinol, domestic	20.00-25.00
" foreign	20.00-25.00
Skatol, C. P.....(oz.)	nominal
Terpineol, domestic	.45-.60
Terpinyl Acetate	2.75-3.00
Thymol	17.00
Vanillin .....(oz.)	.85-.90
Violet, Artificial	10.00-12.00

BEANS.

Tonka Beans, Angostura..	.90-1.00
" " Para	.65-.70
Vanilla Beans, Mexican...	5.25-6.25
" " Cut	3.75-4.00
" " Bourbon .	2.10-3.00
" " Tahiti	1.50-1.60

SUNDRIES.

Alcohol, cologne spirits, gal.	5.00-5.10
Ambergris, black ....(oz.)	12.00-15.00
" gray ..... "	25.00-28.00
Chalk precipitated	.05-.10
Civet, horns .....(oz.)	2.50-3.00
Lanolin	.50-.75
Menthol	3.20-3.25
Musk, Cab., pods....(oz.)	
" " grains .. "	19.00-20.00
" Tonquin, pods. "	20.00-25.00
" " grains	32.00-33.00
Orris Root, Florentine, whole	.18-.19
Orris Root, powd. and gran.	.21-.22
Rice starch	.24½
Talc, Italian .....(ton)	55.00
" French ..... "	15.00-22.00
" Domestic ..... "	10.00-13.00

THE MARKET.

(*Continued from page* 308.)

around a level of 55 cents, the firm position being due to the high prices prevailing for silver bullion. As the year draws to a close the feeling is gaining that the coming crop of vanilla beans will only be scanty at the best. In view of this the larger operators appear willing to forego immediate business in the hope primary market conditions may develop more favorably at a later date.

As regards Bourbon vanilla beans primary markets are reported a shade easier. South American beans have been prompting some interest and the market is generally firm with $3.75@$4.00 quoted. Buying of tonka beans has been less active with the Angostura maintained at 90 cents and $1.00 and the Surinam at 65@75 cents.

FOREIGN CORRESPONDENCE.

(*Continued from page* 308.)

of the probable developments after the cessation of hostilities. To a manufacturer desirous of exporting goods to France, the report should prove a valuable guide, and in it essential data in regard to the French market for American goods can be found."

GREAT BRITAIN.

EMBARGO CHANGES.—The American consul general, London, November 28, reports: The proclamation of May 10, 1917, prohibiting exportation from the United Kingdom has been further amended. The class of prohibition is indicated by symbols, viz., (A) denoting prohibition to all destinations; (B) prohibition to all destinations other than British possessions and protectorates; (C) prohibition to all destinations in Europe and on the Mediterranean and Black Seas other than France, Russia, Italy, Spain and Portugal. The following headings are added:

(A) All animal and vegetable fats and mixtures containing them; fatty acids and mixtures; beans of all kinds except calabar and stignatius; all animal and vegetable oils, fixed, and mixtures containing them; oilstones; oleaginous kernels, nuts, seeds, and products; coffee essence.

The following items from the former list are removed, being replaced in most cases by new items under different classifications above:

(A) Vegetable oils and mixtures thereof, viz., castor, cocoanut, colza or rapeseed, cotton seed, ground nut, linseed, palm kernel; oleaginous kernels, nuts, seeds, and products.

(B) All animal and vegetable fats and articles and mixtures containing animal oils not otherwise specifically prohibited, and mixtures containing them; all vegetable oils not otherwise prohibited.

GREECE.

OLIVE-OIL CROP.—Vice Consul C. M. Corafa, Athens, writing October 30, says: Unfortunate climatic conditions in Greece early in the year, combined with an unusually severe drought in the olive-producing districts, seriously cut down the olive crop in 1917. The presence of disease in the groves has also affected the situation, so much so that the Ministries of National Economy and Agriculture have made appropriations to combat the dreaded "Dakus" and other olive-tree diseases. For these reasons it is estimated that the total crop will not exceed 20 per cent of that of a normal year.

PANAMA.

SOAP, BAY RUM AND CANDLES.—According to a recent Executive decree soap, candles and bay rum are to continue to be admitted into Panama at the rate of 15 per cent. ad valorem. The decree was issued with a view to harmonizing certain tariff provisions with the Taft agreement. Stamp duties prescribed by Law No. 24, of January 21, 1915, are to continue effective, and permits the importation of scented soap and perfumes without the payment of the stamp tax at the time of importation, provided the stamps are affixed before the articles are offered for sale.

SPAIN.

OLIVE OIL AND ESSENTIAL OILS.—Consul General Carl Bailey Hurst, Barcelona, reports: Olive-oil exports from Spain, of which large quantities formerly were shipped both directly and via France and Italy to the United States and other foreign markets from Barcelona and Seville, are prohibited by a recent Royal order. In southern Spain and in the region of Catalonia, the olive-oil industry has been an important source of revenue to the growers who exported to foreign refineries, whence the oil was often shipped to the United States as of really non-Spanish production. Recently the direct exports of the commodity from Spain to the United States have increased considerably with the development of the American taste for the oil produced in this country.

There is no embargo on exports of essential oils such as penny-royal, rosemary, sage, thyme, and lavender, the Spanish production of which is largely destined for foreign markets, and shipment of which is made direct from Spain to the United States, France, and elsewhere. These oils are produced especially in the regions of Murcia and Malaga, where many medicinal herbs are grown for domestic consumption and export. As comparatively little use is made in Spain of several oils derived from the plants mentioned and other oil-producing herbs, the local market is limited; but the industry may be developed indefinitely in view of the favorable climatic conditions of those sections of Spain where the plants flourish. In 1916 the declared exports of essential oils from Malaga to the United States were valued of $176,164; those from Almeria, at $21,920; and those from Barcelona, at $13,220. Persons who correspond with exporters in Spain should employ the Spanish language.

PORTUGAL.

OLIVE OIL PRICE FIXED.—An order was issued that after November 15 producers of olive oil in Portugal could not sell their oil to dealers for a price in excess of 65 centavos a liter. If the oil has more than 1 degree of acidity the maximum price is fixed at 40 centavos. Retailers are allowed 10 per cent. profit. Olive oil from abroad is admitted free of duty. Importers must apply to the Ministerio do Trabalho for the necessary permit. The Government has entire control of this article.

Removal of Lead from Cassia Oil.

Ber. von Schimmel & Co. 100 grms. of the oil is shaken vigorously and repeatedly with 1 grm. of powdered tartaric acid, and filtered from the flocculent precipitate. The colour of the oil is improved by the treatment, and practically no separation of crystals occurs at the zone of contact of the aqueous and oily layers in the subsequent determination of the aldehydes.

GERMANY'S LOSS OF THE VEGETABLE OIL INDUSTRY.

That the scarcity of fats and oils in the Central Powers will be a contributing factor toward the ending of the war is very possible. Reports emanating from Germany and Austria indicate that the shortage and the exorbitant prices demanded for edible oils and fats is causing a great increase in the number of cases of tuberculosis. Another great privation they are suffering from is the want of soap. Any nation, the people of which have been accustomed to civilization, can hardly be healthy in an unsanitary condition. In Germany, furthermore, the oil pressing industry was largely developed and their extraordinarily large production of milk and butter was directly due to the use of oil press cake as fodder for cattle.

The importance of the vegetable oil indutsry in Germany is better understood when one views it from the standpoint of the amount of oil bearing fruits imported by her in the year previous to the war. Of course some of this supply has been met by the use of various oil seeds or kernels grown domestically and the expression of oil from which was not profitable in pre-war times. All these new sources, however, fall far short from compensating for the loss of oil bearing fruits. In the year 1913 the value of the importation of oil bearing fruits and oil cake amounted to 656,000,000 marks of which 46,000,000 marks worth was re-exported leaving the amount of the total net imports 612,000,000 marks. The great proportion of this was imported from British India and Africa, Argentina, Russia, China, Dutch East Indies and Egypt.

To counteract her dependence upon foreign countries for her supply of oil seeds Germany was rapidly expanding the vegetable oil industry in her colonies. Thus in 1913 she exported 38,000,000 marks worth of oil bearing fruits from her colonial posessions. While on the face of it this may appear small as compared to her total imports, the production of several of her colonies had tripled and in some cases quintupled itself in less than ten years. Previous to the war the vegetable oil industry in Germany was rapidly developing and she was looking to her colonies for increased supplies. In the year 1907, 5,435 companies employing 95,957 people were engaged in this brand of manufacture.

Just before the war at least 150,000 workmen were employed in the conversion of oil bearing fruits into oil, oleo margarine and soap. The press cake derived therefrom furnished a large supply of fodder for her cattle.

As a result of the war and her isolation from supplies this industry has been interrupted in Germany. The seizure of her colonies has deprived her of very promising provision of increased raw material for the further development of the industry at home. Thus one of the great losses to Germany, due to the war, and one which it will take years for her to re-establish is the vegetable oil industry.

SOAP AND TOILET ARTICLES WAR TAX.

Under date of December 3 Internal Revenue Commissioner Roper sent to government officials the following synopsis of rulings in relation to the War Revenue tax upon soap and toilet articles:

Toilet articles.—All soaps that are advertised or held out to the public as suitable for toilet purposes, or for application to the body or a part of a body as a cleansing agent, are taxable.

[See additional rulings and survey of Washington situation in our editorial department, beginning with page 287.]

ANOTHER BRITISH GLYCERINE ORDER.

The British Food Controller has issued an order, which became effective November 12, that no person shall split (otherwise than in the due course of manufacture into soap) any of the oils specified in the following schedule, or any of the acid oils arising from refining any of such oils into its component parts of fatty acid and glycerine except under and in accordance with the terms of a license issued by or under the authority of the Food Controller. The schedule is as follows: Cocoanut oil, cotton oil, gingelly (sesame) seed, ground nut oil, soya oil, kapokseed oil, Nigerseed oil, palm kernel oil, rapeseed oil.

MEXICO REDUCES SOAP DUTY.

Advices from Mexico report a reduction in duty on soap. The duty on soap specified in item 694 of the Mexican customs tariff, which includes laundry soap and unscented soap in general, other than toilet soap, is reduced from 0.10 peso to 0.05 peso per kilo (from $2.26 to $1.13 per 100 pounds) legal weight, by a decree of November 6, 1917. Common unscented soap was made free of duty by a decree of September 29, 1915, but this exemption was by implication repealed upon the adoption of the new tariff in 1916.

IMPORT AND EXPORT PROHIBITIONS.

As noted more fully in our Editorial Section on page 291, President Wilson has prohibited the import without license of beans, copra, castor, cocoanut, palm and soya bean oils.

Similarly the export is suspended of caustic soda, soda ash, animal, vegetable and soya bean oils.

Predicts Higher Prices for Rosin.

C. W. Dill, vice-president of the Columbia Naval Stores Company, has just returned from an extensive visit to the primary naval stores markets. "Higher rosin prices seem assured," said Mr. Dill, "due principally to the prospects of a short crop and the general scarcity of labor."

RECOVERY OF WATER-SOLUBLE POTASH AS A BY-PRODUCT IN THE CEMENT INDUSTRY *

By WILLIAM H. ROSS and ALBERT R. MERZ

When a potash silicate like feldspar is ignited at a sufficiently high temperature, sintering and finally fusion take place without any change in the chemical composition of the mineral. With the addition of lime, however, an entirely different result is obtained. A calcium aluminum silicate is then formed and the potash is set free or volatilized in amount depending on the proportion of lime taken, on the temperature and the time of ignition. In the case of small scale experiments it has been shown that at a temperature and with a proportion of lime corresponding to that used in Portland cement manufacture complete volatilization of the potash may be brought about on igniting for about one hour.

Since potash silicates occur in the raw materials used in cement manufacture it is to be expected from these observations that loss of potash will take place in the burning of cement. That some potash is lost has long been known, but there seems to have been no quantitative data on the subject previous to the results obtained by R. K. Meade in 1905 from analysis of the raw material fed into the kiln, the clinkers coming out and the coal used as fuel. The results of three separate tests with the material from one plant showed that the potash volatilized varied from 46 to 52 per cent. of the total present.

PRELIMINARY EXPERIMENTS

With a view to securing more definite information in this direction, an investigation was undertaken over five years ago to ascertain the percentage of potash occurring in the raw materials used in the different cement plants of this country and also the percentage of the total potash that is volatilized in each case. Representative samples of raw mix and ground clinker were collected from the different cement plants in the United States and in Canada with a view to analyzing each sample for potash. With the data thus obtained and knowing the ratio between the raw mix and the cement produced, and the output of the latter, it was thought possible to calculate for each plant the approximate quantity of potash that escapes daily from the kilns. After partly completing this work it had to be abandoned for a time. A few months ago the problem was again taken up and entirely new samples were collected. The work has now been completed and the results obtained form the subject matter of this paper.

ANALYSIS OF SAMPLES

The total number of cement mills from which samples were received number 113, of which 104 are in this country and 9 in Canada. The number of plants in this country which supplied samples is only four less than the total number which operated in 1915, or nine less than the total number said to be in operation in 1916.

The results obtained in the analysis of the samples show that the potash occurring in the raw mix used by the different plants from which samples were received varies from 0.20 to 1.16 per cent. The raw materials used in the mills of the Universal Portland Cement Company, and consisting of blast furnace slag and a high-grade limestone, contain considerably less potash than the average for the other cement plants of the country.

In a communication received from the manager of one of the largest cement plants in the Lehigh Valley district, the statement was made that the raw cement material used in this district contains less than 0.3 per cent. We find, however, that in no case does the raw mix used in the plants of this district run as low as 0.3 per cent., but that some of these plants make use of cement material almost as rich in potash as may be found in any cement plant in the country. In general, it may be stated, however, that high potash-bearing raw material is not characteristic of any particular part of the country.

Knowing the percentage of potash in the raw mix for each individual plant the total potash in the daily run of raw mix is readily calculated. In a corresponding way is obtained the potash in the daily production of cement. The difference between the two values gives the amount of potash volatilized. This is found to vary in different plants from 0.35 to 5.34 lbs. of K_2O per barrel of cement produced. The average for all the plants, when consideration is taken of the variation in output of cement of the different plants, amounts to 1.94 lbs. per barrel of cement.

Omitting the plants of the Universal Portland Cement Company, the corresponding average for the remainder of the 99 plants of this country from which samples were received amounts to 2.09 lbs. The average for the nine Canadian plants is 1.95 lbs.

POTASH ESCAPING FROM CEMENT PLANTS

If the average annual production of Portland cement in this country be now taken in round numbers as 90,000,000 bbls., and if the same average conditions be assumed to prevail in the few plants from which no samples were received as was found on an average for all other plants, then the total potash (K_2O) escaping from all the cement plants in the United States as at present operated will amount to about 87,000 tons annually.

The process which at present is most generally considered with the recovery of the potash that escapes from cement kilns is that of electrical precipitation. With present installations a recovery of approximately 99 per cent. of the dust has been secured. It happens, however, that the finest portion of the dust escaping from any cement plant contains relatively the highest percentage of potash and a 99 per cent recovery of the dust therefore represents a somewhat less efficient recovery of the potash.

In the plant of the Security Cement and Lime Company, where the Cottrell process has been installed for collecting the dust, it is estimated that the potash recovered amounts to 90 per cent of the total volatilized. If this value be accepted as the efficiency of recovery of the potash in the most economic installations, then the total recoverable potash in the cement plans of this country under present working conditions amounts to about 78,000 tons annually.

The potassium compounds occurring in cement dust may be divided into three groups as follows: (1) Those which are readily soluble in water; (2) those which are slowly soluble, and (3) those which are insoluble.

The insoluble potash represents the combinations occurring in the original silicates of the raw mix which is carried over mechanically in the dust before being subjected to a sufficiently high temperature to bring about decomposition. The form of combination which is slowly soluble in water is supposed to be due to a recombination of the volatilized potash with the silicates in the dust. In some plants where coal is used for burning, the extent to which the potash occurs in this "recombined" form may be considerable, while in certain other plants where oil

* Presented before the Fertilizer Division at the 55th Meeting of the American Chemical Society, Boston, 1917, and printed in the Journal of Industrial and Engineering Chemistry.

is used for fuel this combination of the potash is present in comparatively small amount. Thus, in an analysis of a sample of dust from the oil-fired plant of the Riverside Portland Cement Company, the acid-insoluble potash was found to amount to 1.9 per cent. of the total, the slowly soluble potash to 6.5 per cent., and the soluble potash to 91.6 per cent. The corresponding values obtained for the dust from the plant of the Security Cement and Lime Company, where coal is used for burning, amounted, respectively, to 4.4, 36.0 and 59.6 per cent. In the case of the dust from the Cementon plant of the Alpha Portland Cement Company, the proportion of slowly soluble potash is still greater and is sufficient to greatly depreciate the commercial value of the dust as a fertilizer.

BUREAU OF SOILS EXPERIMENTS

In experiments made sometime ago in the Bureau of Soils, it was shown that the greater part of the potash in feldspar may be made to pass into solution by digesting with lime under a steam pressure of 10 to 15 atmospheres. In cement dust, as it escapes from the kilns, the slowly soluble and insoluble potash is already associated with a considerable percentage of free lime, and it was consequently thought that the greater part of these constituents might be recovered in readily soluble form by digesting the dust with steam alone under pressure. This has been found to be the case, and with dust from the Security and Cementon plants it has been found possible to recover in this way, in soluble form and with little increase in pressure, about 95 per cent. of the total potash present.

In carrying out these experiments 20 g. of the dust were placed in a small autoclave provided with a steam gauge for indicating pressure. Water was added to the dust in the autoclave and the latter then heated so as quickly to give the desired pressure. This pressure was then maintained constant for varying lengths of time in the different experiments. The amount of water added was just sufficient to give a paste with the dust at the end of each treatment.

Digesting beyond one-half hour was found to have little effect in increasing the amount of potash made soluble. Thus, after treating at 50 lbs. pressure for one-half hour the water-soluble potash in the Security dust amounted to 82 per cent. of the total and only increased to 91 per cent. in eight hours. At 100 lbs. pressure 90 per cent. of the total became soluble in one-half hour and upwards of 95 per cent. in eight hours.

With the Cementon dust similar results were obtained. With this dust, though it was noticed that prolonged treatment seemed to decrease rather than increase the solubility of the potash. Thus, at 50 lbs. pressure, 81 per cent. of the total potash present became soluble in one-half hour, 87 per cent. in four hours and 82 per cent. in 16 hours. At 100 lbs. pressure a maximum solubility of 93 per cent. was obtained in two hours. Experiments at 150 and 200 lbs. pressure, which are expected to yield still higher results, are now in progress.

RECOVERABLE POTASH

This method of treating cement dust should be applicable whether it is desired simply to increase the soluble potash in the dust or to bring about a subsequent separation of the potash salts present. It has not been demonstrated that the method would prove as efficient under commercial conditions as in the laboratory tests, but if such would prove to be the case, then the average percentage of soluble potash that could be obtained in the dust from different plants should amount to from 90 to 95 per cent. of the total. Assuming then that it would be practical to recover or render available, say, 90 per cent. of the potash in the recoverable dust of cement plants, then the recoverable and available potash escaping from the cement plants of this country amounts approximately to 70,000 tons annually. If, however, the dust from all plants losing less than one pound of potash per barrel of cement be considered as too low-grade for use as a source of fertilizer material and is omitted in the calculations, then the value for the available recoverable potash in the cement industry of this country will be in the neighborhood of about 67,000 tons annually.

This estimate is based on the amount of potash lost under present working conditions. It is possible, however, to bring about an increase in the amount lost by two different ways:

(1) By increasing the perecntage of potash in the raw mix.

(2) By increasing by chemical or other means, the percentage of potash volatilized.

At the plant of the Riverside Portland Cement Company, the potash in the raw mix has been increased from 0.2 per cent. to as much as 0.8 per cent. This was done by utilizing that portion of the clay deposit highest in potash and by enriching the raw max with the addition of feldspar. The proportion of silica to alumina in feldspar is, however, higher than in the argillaceous material ordinarily used in cement manufacture, and an extended use of this mineral by itself would therefore not be practical in all plants, particularly in those plants where a siliceous cement is already obtained. By use of the proper proportion of iron ore, however, in connection with the feldspar, the latter may then be used even in plants where siliceous cement is ordinarily produced, while in the case of plants producing aluminiferous cement a certain proportion of feldspar should be possible without the addition of any oxide of iron.

At the plant of the Security Cement and Lime Company, an increase in the potash volatilized has been brought about by the use of ordinary salt. This is effected by adding the salt in the solid state both to the raw mix and to the coal used for fuel. The quality of the resulting cement is in no sense impaired by the addition of the salt for it is found that the total alkalies in the clinker when salt is added are actually less than when no salt is added. By this treatment the percentage of volatilized potash which at this plant normally runs about 38 per cent. is increased to about 65 per cent.

INCREASING PROPORTION OF POTASH VOLATILIZED

Other reagents may also be used for increasing the amount of potash carried over in the dust. Thus an ingenious method devised by the Riverside Potland Cement Company makes use of calcium fluoride for this purpose. Volatilization of the potash then takes place laregly in the form of the fluoride and as it escapes from the kilns it becomes associated with the salts of calcium carried over mechanically in the dust. It thus happens that when the dust is leached with hot water for the separation of the potash the latter passes into solution as the sulfate or cabonate while the fluoride remains as insoluble calcium fluoride. On using the residue for cement material the same fluoride is fed into the furnace again and may thus be repeatedly used in bringing about increased volatilization of the potash. By this cyclic process the volatilization at this plant has been increased from 60 to 90 per cent.

An increase in the proportion of potash volatilized may also be brought about by increasing the temperature of burning. This is illustrated in the analysis of a number of samples furnished us by the Tidewater Portland Cement Company and which represented variations in burning from that which gave a very soft clinker to that sufficient to give a very hard clinker. The results showed that the proportion of potash volatilized in the different steps varied from 39 to 62 per cent.

According to the analysis of the representative samples sent us from the different plants of the country the proportion of potash volatilized in the different plants varies from about 25 to 96 per cent. This variation is too great to be attributed to differences in the temperature of burning alone, and it is probable that a number of factors operate to bring about this result. The average for dry process plants amounts to 47 per cent. and for wet process plants to 46 per cent. Both averages are above the value for the volatilization of potash that normally prevailed at the plant of the Security Cement and Lime Company, but below the 6.5 per cent. volatilization that has now been secured at this plant. If it be assumed that the last-mentioned percentage volatilization could be attained by chemical or other means in all plants where a lower volatilization normally prevails, then it may be estimated that the recoverable available potash in the cement plants of this country would be increased from 67,000 tons to about 100.000 tons annually. This estimate represents a

recovery, according to our analysis, of only between 50 and 55 per cent. of the total potash entering the kilns in the different plants. At the plant of the Security Cement and Lime Company, where no steps are yet taken to make soluble the slowly soluble potash, the percentage of available potash recovered is somewhat less than this, but at the plant of the Riverside Portland Cement Company the recovery of soluble potash is already considerably greater. Improvements over present methods of recovering potash are to be expected and it would therefore seem that an estimated possible average recovery of about 50 per cent. should not be considered excessive. Whether or not this percentage can be economically recovered in all plants remains to be determined.

It may also be pointed out that the weight that can be attached to these estimates is also dependent on the representative character of the samples analyzed. Analysis of a number of samples corresponding to those which we have analyzed, but collected from six to nine months previous to the time our samples were taken, have also been made by other chemists and particularly by the Western Precipitation Company. In every case in which the results were compared there was found to be an agreement within the limits of experimental error. It is, of course, recognized that the analysis of further samples collected from some other plants might not show the same close agreement, but from the observations which have been made it is thought that as a whole the results obtained are representative.

COLLECTION OF CEMENT FLUE DUST

Cement flue dust is now being collected by the Cottrell process of electrical precipitation at the plants of the Riverside Portland Cement Company and the Security Cement and Lime Company at several plants of the Universal Portland Cement Company; and at the Cementon plant of the Alpha Portland Cement Company. At the Riverside plant the dust is being used for the preparation of concentrated potash salts, while at the Security and Cementon plants it is disposed of directly for use as a fertilizer. The dust from the Universal plants, being too low grade to serve as a source of potash, is simply returned to the kilns for manufacture into cement. Installations of the Cottrell process are now being considered by a number of other cement companies and operations have already been started on the installations at the Coplay, Dexter and Ironton Portland Cement plants, and at the plant of the Buffalo Potash and Cement Corporation, where a commercial installation has been erected for the recovery of potash from feldspar by use of the latter in the manufacture of cement.

Wet processes for precipitating cement dust are now in operation or are now being installed for one or more kilns at the plants of the California Portland Cement Company, the Santa Cruz Portland Cement Company, and the Sandusky Cement Company.

SUMMARY

The constituents of the dust in all cement plants are much the same but may vary greatly in relative proportion. In the case of freshly precipitated dust collected in the normal operation of a cement plant the soluble constituents consist for the most part of the sulfates, chlorides, sulfides and polysulfides of potash, soda and lime. Chlorides occur only in small amount. The percentages of sulfides and polysulfides in the dust from different plants may vary widely and in the case of dust from some oil or gas-fired plants may be entirely absent. Free lime is found in all cement dust, and in the water extract of all samples analyzed, the basic radicles were found to be in excess. It follows, therefore, that the potash in the water extract of freshly collected flue dust will be present to a greater or less extent in the form of the hydroxide. As the dust becomes carbonated, either by chemical treatment or by exposure to the air, the hydroxides present will change to carbonates, and by interaction of the carbonates with calcium sulfate in the dust the water-soluble potash will be obtained principally in the form of the sulfate which is the form universally recognized as of most value for use as a fertilizer.—*Bureau of Soils, U. S. Department of Agriculture, Washington, D. C.*

GERMAN SEWAGE GREASE PATENT.

German patent 293,167, K. Strepel, covers a process for separating saponifiable from unsaponifiable fats and oils. The greases recovered from technical materials (wool, leather, faeces, etc.) by extraction mostly contain saponifiable and unsaponifiable matters, which can be separated by a treatment based on the fact that the latter can be volatilized by the vapors of inert liquids.

For example, crude sewage fat is first saponified as completely as possible by treatment with an alkaline earth or a metallic oxide, and the dry, anhydrous mass of soap is subjected to the action of superheated steam in a suitable still at temperatures above 200 deg. C. The unsaponifiable oil passes over with the steam, leaving behind in the still a soap which, when decomposed with acid, yields fatty acids free from unsaponifiable fats and oils. The steam may be replaced by highly heated vapors of benzine, carbon tetrachloride, etc.

BRITISH SOAP INDUSTRY GROWS.

The London *Financial Times* in discussing the English soap industry, says: "Largely, no doubt, owing to the closing of enemy countries to the exports of soap (and even to its manufacture upon anything like the pre-war basis), our overseas trade in the commodity has shown highly satisfactory expansion. As recently as 1910 the exports of soap from the United Kingdom amounted to only 43,700 cwt., valued at £940,000; but three years later the figures were 1,747,374 cwt. and £2,092,686, while last year the quantity shipped rose to 2,172,738 and the value to £3,458,608. For the last-mentioned year the imports, less re-exports, were 230,082 cwt., valued at £352,212 comparing with 453,318 cwt. and £556,619 in 1915. In the three years to 1916 the exports rose 24.3 per cent. in weight and 66.7 per cent. in value. Of last year's shipments those to foreign countries were 40 per cent. more than in 1913, as against a rise of only 9 per cent. in the exports to British possessions."

New Method of Determining the Fatty Acid in Soap.

According to H. F. Slack, 5 grammes of shaved soap are dissolved in about 10 cubic centimeters of glycerine under the influence of heat. Then 4 cubic centimeters of hydrochloric acid, extended one-fifth, are gently added. The fatty acid set free is used in a pipette graduated by 5 millimeters, employing, if necessary, warm water. The pipette is suspended, the upper end being dosed in water at a temperature of 50 to 55 degrees C., and the volume of fatty acid can be read. To ascertain the contents, per cent., it is necessary to determine the density at the same temperature. There are not very wide variations in common soap. By using glycerine the solution of the soap is effected without lather and the stratum of fatty acid is perfectly clear.

Examination of Soaps Containing Clays.

C. Stiepel, in *Seifenfabrikant*, presents this formula: In a glass-stoppered 100-cc. graduated cylinder, 10 g. of finely shaved soap are dissolved in 75 cc. of hot alcohol (60-65%) and the solution made up to volume. After standing 48 cc. of the clear solution are evaporated in a beaker and the dry soap weighed.

Manufacture of Soap Powder Low in Fat Content.

Powders containing 5% of soap are made as follows: 10 parts of soda are dissolved in 30 parts of warm H_2O in a mixing vessel and 11 parts liquid soap added and then 19 parts more of H_2O and 50 of Na_2CO_3. After 20 to 40 min. of agitation, the thin solution becomes thick and doughy and when cold can be readily ground.—*Seifenfabrikant.*

Soap in Denmark Costs Real Money.

It costs a lot of money to keep clean in Denmark, according to Mrs. Pauline Bagger, of Cleveland, who received a letter from a Danish relative quoting soap at 27 cents a pound.

CONCERNING THE USE OF WATERGLASS*

By W. KIND

The long discussed question of the suitability of Washing Materials containing waterglass, at the present time claims more than ever attention in all particularly interested circles, and the great shortage of soap has led to the increased use of waterglass. While it is a common belief on one side that the addition of waterglass to washing materials is injurious, in other circles it is believed that it is the best substitute for the missing soap. Thru numerous laboratory experiments Dr. W. A. Zanker and Dr. K. Schnabel state the following in a new publication:

"Ordinarily soap and soap powders containing waterglass are not injurious to clothes; waterglass is, however, only a poor substitute inasmuch as it is of very little value for cleaning purposes." By their deductions, the authors again refer to a former article of mine which appeared in the *Deutschen Färber Zeitung*, and which was issued as a special edition. The results of my experiments of like nature with samples of cotton thread were partly unsuccessful. I too would like to express myself again in regard to the use of materials containing waterglass.

The test of washing materials with regard to the value of washing and the saving of fibre of materials offers much difficulty. Even as Drs. Zanker and Schnabel state, they have succeeded, thru the repression of all undesirable and irregular circumstances, in clearly explaining the action of the introduction of waterglass in soap and soap powders.

There is no question that the proof of the strength of the textiles, when checked and worked out by the Board of Examination, is valued in order to avoid any uncertain values. Now the question is, is it best to try such experiments with soft water of 1°, inasmuch as only hard water is at our disposition and the reaction of hard water on the combined wash materials or lye is of importance, whereas thru the use of harder water a greater appearance of alkali is found; so the experiments produced thru the use of soft artisan water are similar to experiments under special conditions. It is important to soften the hard water however, before adding the wash material.

All experiments, however, point to the fact that instructions for their use are not followed. As a rule, the manufacturer does not agree with the chemist, whose conclusions are based on actual experiment. There is this difference, in my opinion. Thru the uneven possibilities of oxydation in the fibres and the formation of oxycellulose, which we have to combat in both laboratory experiments and in washing the material is effected.

Brittle oxygen cells result in the laundry thru influence of acid, air on alkaline cellulose under heat. While thru long boiling of cotton in alkali lye, no weakness of the fibre is noticed, so long as the simultaneous influence of air is excluded a fabric which is not sufficiently covered with lye is affected thru the hot air containing steam. There is a possibility of the upper layers of fibres burning off in the wash kettles in the bleacheries, not containing sufficient lye while the alkali soaked cellulose are oxydized by the steam air mixture. All steaming of alkali soaked textures is dangerous if the air, combined with the steam, acts upon the fibre and the material is more endangered the more alkali the cellulose containes, as well as the stronger the lye is. With such influential possibilities of alkali, plus steam, plus acid, one has more to count on in the washing machine and laundry than in the laboratory. As the weakness of the fibre occurs more readily, the more alkaline the cellulose is one has to be more considerate with increasing a strong boiling lye that is a strongly reacting alkali solution. Inasmuch as the alkali itself in a concentrated solution renders itself harmless on the fibres, even if the hot lye offers the acid no opportunity to act, the destruction of fibre thru lye is negligible. The same material soaked with soda lye, which thru the addition of air, will disintegrate, retains its strength when the oxydation by air when steaming is prevented.

Thru boiling of thread and fibre samples, the proportions are not obtained which are obtained thru scalding in the rotary washing machine or washboiler, as the cloth either remains under the fluid, or does not come into such close contact with the air containing steam. I have therefore come to the conclusion that the only practical experiments are obtained in a machine with the addition of samples and the proper washing materials.

Such experimental washings often repeated indicate that the general experiments are checked. Naturally it may be that the fibre whose strength is to be proven later is not affected. Inasmuch as this often occurs thru the washing of material to remove dirt spots, it is necessary to have a trial washing machine. The filling of the machine must be regulated to prevent uneven scouring. In experimenting with the various wash methods or wash materials, it is wise to follow the instructions. Only in this manner can the influence on the fibre and the strength of the wash material be determined. But even here trials with soft and hard water are to be recommended as well as with different washing methods as for instance a powder containing waterglass is recommended for use with very hard water by many patrons. As an explanation for this the better removal of the hard formation will come into question. The discharges thru waterglass may fall out flakier, or ball together in a closer pack. But here also the nature of the hardness plays a large part, for soda reacts, particularly with gypsum, while the waterglass, thru soda lye split off, may be better adapted for softening water containing magnesia.

The separation of lime, etc., are important to the durability of the wash, as the strong incrustations make the fibres rotten and brittle. Such weavings shed the lint much more. If one examines the dirty water from the machines the lint will show quite plainly as a flaky substance. If such effects are not discovered by minor experiments in the laboratory, it may be that they do not show in the wash machine or thru rubbing on the washboard. A single rubbing of the dry or damp sample fibres, or a single or even longer rubbing does not give an equivalent result.

The discharges on the fibre for the strength of the material are here presented according to my experiments. Under unfavorable conditions they render the fibre brittle, under favorable conditions because they influence the tenacity of the fibre and lead to a certain cementation.

Dr. Zanker and Dr. Schnabel declare, however, that up to the tenth washing, the possibility of wear and tear is not noticeable above all because in clean clothes no addi-

* From *Der Seifenfabrikant*, August, 1917.

tion of soda is necessary whereas in waterglass the addition is stronger.

A comparison by the drawing of a curve gives me no apparent opportunity to find an addition. The strength of the thread washed ten times with a waterglass filling is 105.84, according to percentage, and without this filling 107.02, a difference which at a glance carries very little weight in the irregular course of the curve. The improvement of the threads and the difference of the curves cannot be explained thru mercerizing or contracting action of the solutions. Thru my former boiling of cotton thread a strengthening addition was proven even when experimenting only with water. The percentage of the ten times washed cotton thread for boiling condensed water was 105.4, and, on the other hand, for boiling artesian water of 12° hardness, 113.9. There is no accounting whatever for a mercerization through released alkaline solution.

That the difference of the two curves for a waterglass filled washing medium and a pure washing medium should depend upon the weaker splitting off of alkali from silicate of soda does not convince me. First, I would like to point out that, by these comparisons, soap can not be compared with soap containing waterglass, and that soap as such was not compared. There was prepared for these experiments a clean neutral curd soap, one containing 20% waterglass, plus 5% soda lye, a normal soap powder containing 30% fatty acids and a highly waterglass filled soap powder. In the experiments, however, there was dissolved soap with soap powder to make a washing solution, so that only a very fatty soap powder and one filled with waterglass came into comparison. As probably the larger percentage of the soap powder was made by the use of soda, the alkaline mass in the solution dissociated from pure soap and coming into account as free alkali must recede alkali split off from the soda.

(To be continued.)

POTASH PROSPECT PERMITS.

Secretary Lane, of the Department of the Interior, has issued regulations under which permits may be obtained to prospect for potash on public lands of the United States. Heretofore, for some years, all lands known to contain potash have been withdrawn from public acquisition. Hereafter known potash lands may only be acquired by lease from the Government. This is the first time the United States has leased its lands, excepting the coal lands of Alaska, which two years ago came under a leasing bill that was passed by Congress.

At this time Germany is boasting that on the termination of the war the world will again have to obtain its potash supply from her. It is known, however, that large deposits of potash exist in this country, and under the law and under the regulations issued, exploitation of these beds will begin immediately. Permits may be issued to citizens, associations and corporations of the United States for the exploration of not exceeding 2,560 acres each of land in compact form, the permits to be for a period of two years. If the permittee discovers potash in commercial quantity and quality he will be entitled to a patent for one-fourth of the area of his permit, the remainder to be subject to lease by the Government. Applications for permits must be filed in local United States land offices. In a few days, Secretary Lane will issue the regulations to govern the leasing of public lands containing potash deposits.

Readers of the SOAP SECTION may find items of interest to them in our Trade Notes pages, as well as in Patents and Trade Marks and Foreign Correspondence.

MARKET FOR MUSK SOAPS IN ADEN.

(Consul Addison E. Southard, Aden, Arabia.)

There is a good market in Aden for laundry soaps, but for toilet soaps the demand is far less promising. Where soap is used for toilet purposes the average native finds the laundry class of soaps quite satisfactory. The small European population and a small class of natives do, however, demand a proper toilet soap. The average annual value of the imports of laundry soaps is $57,995, and the average annual value of the imports of toilet soaps is only $2,338.

American manufacturers are prospecting the local laundry soap market and are already supplying a good share of the annual imports.

Most of the toilet soaps imported come from the United Kingdom. A minor quantity of perfumed toilet soaps comes from the United Kingdom and France.

An investigation made of the toilet soap market reveals the possibility of building up a limited trade in cheap soap perfumed with musk. The local native, and more particularly the Arab, is very fond of strong perfumes and he is more than partial to musk. One Aden dealer is enthusiastic over the possibility of musk soap, which he could sell at a price within reach of the limited purchasing power of the mass of the native population. He thinks that a 2-ounce cake strongly scented with musk, would best suit the trade. The shape of the cake should be oval and it should be made to retail at an average price of 6 cents. The price could be a little more.

The leading native perfume dealer in Aden estimates that he alone could sell from 50 to 100 gross of such soap each month. As to packing he thinks that it should come three cakes in the usual cardboard box as do most toilet soaps. The class of trade to be served would buy this soap by the single cake, but it is considered that packing the soap as suggested would meet the idea of the customer that all regular toilet soaps are so packed. Inasmuch as the soap would be sold by the cake, an attractive paper wrapper would be desirable unless it added materially to the cost of the soap.

Should any American manufacturer be sufficiently interested to send samples, it is suggested that further details be obtained from Aden, before deciding upon the style of box and wrappers. A soap of this sort should find a sale among the Arab populations of other countries, and the labels or descriptions to be placed upon the box and wrappers should be at least partly in Arabic.

The name of an Aden dealer who would like to receive samples of musk soap, as well as the names of other dealers who might be interested in a product of this sort, are transmitted and may be obtained from the Bureau of Foreign and Domestic Commerce or its district and cooperative offices by referring to file No. 95218.

Will Extract Potash from Ash Residue.

The California Potash Company, organized to operate a plant in Sacramento to extract potash from the ash residue from the incinerator operated by the municipality, has been authorized to sell five shares at par, $1 a share for cash, and to issue 24,995 shares to Edwin Oliver, or his nominees, in exchange for a secret formula for the manufacture of potash and the transfer of a contract executed between the City of Sacramento and Oliver on October 16, 1917. This contract provides that Oliver shall be permitted to extract potash from the ash residue on payment of 10 cents for each ton of ash worked. The contract is for two years.

Potash Find in Colorado Doubted by Experts.

Optimistic press dispatches from Denver concerning a discovery of a rich doplerite deposit which would furnish a valuable potash supply are taken with several grains of salt by government experts at Washington. The chief geologist of the Geological Survey says that no notice of any such supply of doplerite has been called to the attention of the government experts. He says that there is not enough doplerite in any one deposit which could be separated to make a commercial source of potash. He is anxious to get full reports on the Colorado "find."

FEATURES OF SOAP MATERIAL MARKET.

(*Continued from next page.*)

customary amounts of corn oil. The high level of prices prevailing on corn oil has prompted some consumers to switch their orders to cheaper competing oils.

Olive oil has attained a new high record owing to steadily diminishing stocks brought about by the fact that embargoes now in effect on this oil from Italy and Spain are expected to hold for the duration of the war. Commercial olive oil has sold as high as $2.80@3.00, which shows an advance of about 175 per cent since the outbreak of the war.

The inquiry for palm oil has continued fairly brisk and export permits have been difficult to obtain from Great Britain. Ae regards palm kernel oil the tone of the market has been strong as offerings from the Gold Coast in Africa are limited.

Heavy Chemicals

In comparison with previous periods, the market for technical chemicals has ruled comparatively quiet during the interval. Export embargoes, car shortages, and a general tying up of traffic facilities have operated to bring spot business down to the lowest point for weeks. There has been a good deal of unsettlement also as regards the future position of a good many of the technical chemicals, although there has been fair contracting ahead in most instances.

Perhaps the feature of paramount importance was the sharp break in the asking quotations for caustic soda, brought about by the inability of exporters to move supplies. Prices are fully $1.50 a hundred weight lower, liberal offers being reported within the range of $6.75@7.00 a hundred. Soda ash went hand in hand with caustic closing at $2.75@2.85 a hundred. Consumers of the latter have been sufficiently stocked to care for their immediate demands.

The largest arrival of carbonate of potash seen here in over two years was reported to have been received from Vladivostock, Russia, by importers during December. The total, which was somewhat between 700 and 1,000 tons, was consigned to the Russian Embassy and distributed among half a dozen different concerns. The spot level was reduced to 60@65 cents for the 94 to 95 per cent but in some hands $1.50 was still quoted nominally.

The sold up condition of the principal mineral acids continued to make for strength in this division. Sulphuric is holding strong since the Government continues to draw heavily on the spot supply and manufacturers are doing their utmost to produce the material fast enough to fill orders.

Soap Substitutes and Clogged Drains.

The shortage of fats in Germany early led to a very stringent shortage of soap, says the *Scientific American*. An ingenious remedy was found for this by the manufacture of a soap substitute consisting mainly of fine clay or kaolin manipulated in combination with slacked lime. An unpleasant consequence of its use, however, is reported in the *Zeitschrift des Vereins deutscher Ingenieurs*. It seems that an uncommonly large number of stoppages in drains and sewer pipes led to an investigation which disclosed the fact that the clogging was due to masses of the aforesaid clay agglomerated with fibrous vegetable debris so as to produce a plugging of the pipes and drains carrying the mixture.

Use of Soya Bean as Fat Substitute Urged by a Chinese.

The use of the soya bean as a substitute for fat was urged by Dr. Yamei Kin, of China, at the home demonstration conference of the New National Museum recently in Washington. The soya bean, it was said by Dr. Kin, possesses high fuel qualities, and is in every way a satisfactory substitute for fats.

Perusal of the advertising pages is no less a duty than scanning the text pages of this journal every month.

WAX FROM SUGAR-CANE WASTE.

Numerous investigations by the British Imperial Institute relating to the development of Empire industry and trade are summarized in a report recently presented to the executive council of the Institute. Quite some reliance is placed on the report which has to do with the production of wax from sugar-cane waste. A considerable amount of attention has been given in recent years to the recovery of wax from the waste produced in the extraction of sugar from the sugar-cane, and this industry has now been started on a small scale in Natal. Samples of the first consignment of Natal sugar-cane wax shipped to England have been examined at the British Imperial Institute and found to be of good quality, quite equal to that of the first trial samples made and examined. Sugar-cane wax is now becoming better known on the market, and could be used as a substitute for the better known carnauba wax in the manufacture of gramophone records, polishes, candles and other things.

BRITISH TO CONTROL OIL-SEED SUPPLIES.

A cablegram from the American Consul General at London says: Food ministry orders all factories engaged in crushing oils from seeds, nuts, and kernels placed at Controller's disposal, all oil cakes and meals on hand November 30, and all stocks produced after that date. Also takes possession on December 1 of all babassu seed, castor seed, copra, cotton seed, sesame seed, ground nuts, hempseed, illipe, kapok seed, linseed, mowrah seed, niger seed, palm kernels, poppy seed, rapeseed, shea nuts, soya beans, sunflower seed in stock and imported thereafter; does not apply to holders of less than 5 tons. All hardened fats manufactured by hydrogenation to be placed at disposal of Food Controller after November 30.

Oil-Splitting Forbid by British Food Controller.

By the oil splitting order the food controller ordered that no person shall on or after November 9 split (otherwise than in the due course of manufacture into soap) any of the oils specified in the appended schedule or any of the acid oils arising from refining any of such oils into its component parts of fatty acids and glycerine, except under and in accordance with the terms of a license issued by or under the authority of the food controller.

Vegetable Oil Industry in France.

In spite of war conditions, the vegetable-oil trade was one of Marseilles' most prosperous industries in 1916, according to the report of Consul General A. Gaulin. Most of the local oil mills and soap factories realized substantial profits, having been favored throughout the year by an increased demand from the usual centers of consumption ready sale of their products and full output at proportionas well as by Government orders, which have insured a ately enhanced and remunerative prices.

Chicago Hotels Cut on Cleanliness.

Chicago hotels, already conserving meat, wheat and fuel as war measures, were asked recently to effect still another war saving in fats and grease. As a result of instructions sent by Lawrence Adams, owner of the Brevoort Hotel, a limit will be placed on the soap supply furnished guests at each hotel in the city.

1917 German Potash Production Totals 1,800,000 Tons.

At a meeting recently of the German Potash Syndicate it was announced, according to German newspapers received in Amsterdam, that the potash production for 1917 would reach 1,800,000 tons, or 270,000 tons more than during the record peace year of 1913.

Glycerine from Britain's War Waste.

The present rate of annual output of refined glycerine from the military centres in Great Britain is 1,200 tons. The glycerine is obtained for the Government at a cost of $295 a ton.

MARKET REVIEW ON TALLOW, ETC.

(Specially written for this journal.)

With the usual slowing down and easing of demand for fat stocks as we approach the end of the year, the market which recently reached 18c. for New York Special Tallow in drums, sagged off ¼c. a lb. on sales of about 1,000 drums, this being taken by two of the leading soapmakers here at 17¾c. a lb.

South American tallow, recently in good demand, with sales as high as 18½c. a lb., is now offered at 17¾c., thereby adding to the general dullness.

The lard market in the past two weeks has been considerably easier, with a fall in prices, due to heavier hog receipts.

However, the underlying situation, despite the decline, is practically unchanged; and indications are that values will be fully sustained after the turn of the year. It is generally understood that soapers are not carrying large stocks, and will have to replenish soon; thus preventing any further material decline in values.

Recently, glycerine values have fallen, notwithstanding smaller production.

The Federal Government has tightened its embargo against export business. Sooner or later this will probably be at least modified, as fat stocks of various kinds in the countries which are either neutral or friendly to us in this war, as well as in South American States, must at this time be low; and pressure will probably be brought to permit of freer exportation; all of which must aid in sustaining values. We are entering upon a new year, with much uncertainty, and business conditions may turn out poorer than even those pessimistically inclined are expecting.

Thus, while the underlying conditions for fats are fairly sound, a new state of affairs may arise that will cut off more than an equivalent in consumption as compared with the lessened production. Besides, buying in large quantities may not be so fashionable as heretofore, on an advancing market, and a hand-to-mouth policy is likely to produce sudden fluctuations either way, purely on technical grounds.

TOBIAS T. PERGAMENT.

December 17, 1917.

GLYCERINE.

Specially Written for This Journal by W. A. Stopford

Since our last letter, the market has been dull and prices have steadily declined. Dynamite has dropped from 68c. to 62c. and crude has been proportionately affected. Chemically Pure has been firmer and up to last week, the published quotation had been maintained at 70c. in bulk; there had, however, been reselling by dealers at under this figure, and even refiners themselves, had been shading the asking price. Toward the end of the week, one of the Western refiners dropped his price to 66c. and an Eastern refiner came down to 69c.; others retain the 70c. price, but the market is unsteady and an order of any size would be actively competed for. The demand for dynamite has been disappointing and this is really the reason for the weakness in the market; the large buyers are expected to operate during January, but there will be more for sale at that time, and it appears now that the surplus, over consumptive needs, will tend to keep the price down. Tallow is easier, but on account of the demand for oils and fats for edible purposes, the prices of these commodities are expected to remain high and the soapmakers will find difficulty in obtaining raw materials at figures which will permit of a profit on their manufactured product; this is likely to result in a decreased output of glycerine and offers the only factor, at the present time, to prevent refined glycerine from continuing its downward course.

Vegetable Oils.

The outstanding feature in the vegetable oil situation during the period was the revival of interest shown by soap makers in soya bean oil. One large Western soap maker placed a contract for 3,000 tons of soya bean oil for shipment during the first quarter of 1918 on the basis of approximately 15 cents a pound in buyers tanks f. o. b. Seattle. It is also known that soap makers have made extensive purchases of soya bean oil for January-July shipment at prices ranging from 15¾ to 17⅞ cents cost in buyers tanks.

While there is still a great scarcity in the vegetable oil line, this is accompanied by soft spot here and there brought out by the fact that as the year closes merchants wish to close out their odds and ends. Still it is noteworthy that transportation conditions have been unfavorable as regards shipments from the Pacific Coast so that holders in that market are firm in their views and are expected to continue so while the present scarcity of tonnage for moving goods from the East continues.

One development of the market which is watched with the keenest interest is the fact that corn oil is now practically unobtainable. Refiners are practically out of the market and have no prospects for re-entry, as owing to the fact that their supplies of corn are being held up by the Food Administration they are not turning out their

(Continued on page 317)

SOAP MATERIALS.

Glycerine, C. P., 69@70½c.
Dynamite, 64@65c.
Crude, soap lye, 80 per cent. loose, 44@45c.
Saponification, 80 per cent. loose, 50@51c.
Castor Oil, No. 3, 28@29c.
Cocoanut, Cochin, nom.; Ceylon, nominal.
Cocoanut oil, domestic Cochin, 18½@19½c.; domestic Ceylon, 17½@17¾c.
Corn, crude, 18½@19c., nominal.
Cottonseed, crude, tanks, $1.31½ gal.; refined, 18.50@18.65½c. lb.
Olive, denatured, $2.75@2.85 gal.; prime foots, 36@38c per lb.
Palm, Lagos, 30@31c., nominal; red prime, 28@29c.
Palm kernel oil, domestic, 17½@18c.
Peanut, crude, $1.36@1.38 gal.
Soya bean, 17½@17¾c., nominal.
Tallow, special loose New York, 17¾c., asked; tallow city, 17c. asked; grease, yellow, 16@16¾c., brown, 15½@16½c.
Chemicals, etc., Borax Crystals and granular, 8¼@8½c.
Caustic potash, 88 to 92 per cent., 85@90c.
Caustic soda, 76 per cent., $6.75@7.00 per 100 pounds.
Carbonate potash, calcined, 80 to 85 per cent., 60@65c.
Red oil, saponification, 15¾@16¼c.
Salt, common, fine, $1.08@2.10.
Soda ash, 58 per cent., $2.75@2.85 per 100 pounds.
Soda silicate, "iron free," 3½@4½c.
Sulphuric acid, 60 degrees, $30.00@ per ton.
Starch, pearl, $5.56@5.59; powdered, $5.70@5.75.
Stearic acid, single pressed, 21@22c.
Stearic acid, double pressed, 22@23c.
Stearic acid, triple pressed, 23½@24½c.
Zinc, oxide, American, 11½@15c.
Rosin, water white, $8.50@ per barrel.
Rosin, window glass, $8.30@ per barrel.
Rosin, Nancy, $8.00 per barrel.
Rosin, Mary, $7.75@ per barrel.

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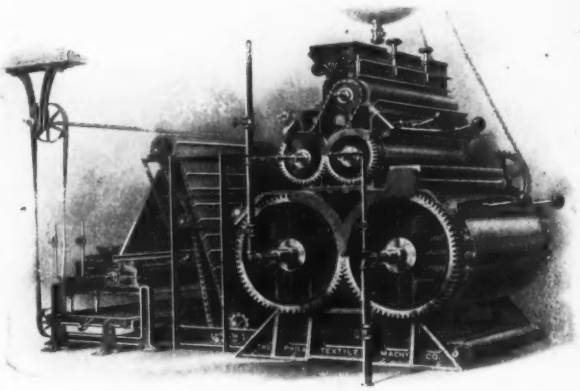

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WANTED.—Several stills and other equipment for essential oil and synthetic plant. Address B. O. No. 481, care of this journal.

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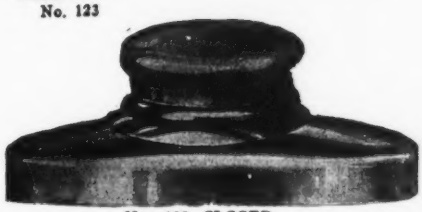
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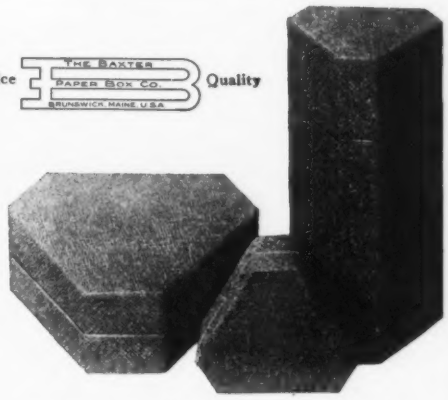

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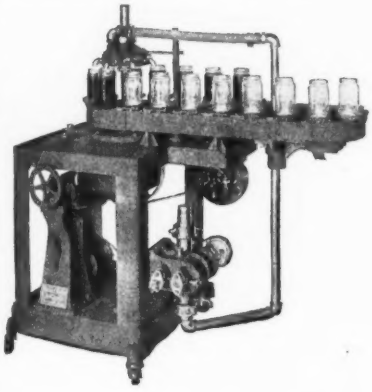

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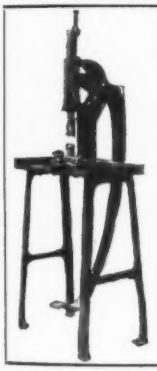

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